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ABSTRACT

This record of the Select Committee on Narcotics Abuse and Control contains testimonies concerning the use of drugs and drug addiction during pregnancy. The physiological and psychological effects of various drugs on a pregnant woman and her developing fetus are discussed. Various programs created to care for pregnant addicts are described by persons involved in these programs: the pregnant addicts and addicted mothers program (PAAM): the Hutzel Hospital Program for Drug Dependent Pregnant Women: Women, Inc.: and Odyssey House. Testimonies of two clients of the Women's Services Clinic describe drug dependence, prenatal care, methadone maintenance, and child health care. A neonatologist describes the effects of drugs on the fetus and neonate. Discussions on developmental retardation, withdrawal symptoms, crib death incidences, and mortality rates are included. (NRB)

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THE USE OF DRUGS DURING PREGNANCY

ED192201

HEARING

BEFORE THE

SELECT COMMITTEE ON NARCOTICS ABUSE AND CONTROL HOUSE OF REPRESENTATIVES

NINETY-SIXTH CONGRESS

SECOND SESSION

FEBRUARY 6, 1980

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THE USE OF DRUGS DURING PREGNANCY

WEDNESDAY, FEBRUARY 6, 1980

HOUSE OF REPRESENTATIVES,
SELECT COMMITTEE ON NARCOTICS ABUSE AND CONTROL,
Washington, D.C.

The Select Committee met, pursuant to notice, at 10:17 a.m., in room 2337, Rayburn House Office Building, Hon. Cardiss Collins, Cochairperson of the task force on Women and Drug Abuse, presiding.

Present: Representatives Lester L. Wolff, chairman, Benjamin A. Gilman, Robert K. Dornan, and Lindy Boggs.

Staff present: Patrick L. Carpentier, chief counsel; Alma Bachrach, chief of staff—supply; Jennifer Salisbury, staff counsel; Toni Biaggi, professional staff member; Elliott Brown, professional staff member; and Bonnie Robinson, executive assistant.

Ms. COLLINS. This task force meeting will now come to order.

Good morning ladies and gentlemen. During my tenure with the Select Committee on Narcotics, I have often been puzzled by the statement that drug abuse is a victimless crime. The subject of today's hearing, "Pregnant and Addicted Women," is sure to contradict that statement. Nowhere else could you find a more defenseless victim than the unborn child.

The physiological and psychological effects of all types of drugs, from Valium to heroin, on both a pregnant woman and her developing fetus range from spontaneous abortion, breech birth, and after-birth hemorrhaging for the mother, to low birth weight, respiratory difficulty, and withdrawal symptoms for the infant.

By far, the deeper implication is the future of these newborn infants. There is clear evidence that these infants are at high risk for child abuse and neglect.

Contributing factors are the mother's continued substance abuse, or, if she seeks treatment, the difficulty of securing child care services. Inadequate preparation for parenthood and poor family support, coupled with substance abuse, means that these infants are bound to repeat their mother's lifestyle.

A study conducted by the National Institute on Drug Abuse estimated that in 1977, there were 4,742 infants born to addicted mothers. In New York City alone, this represented 1,300 births. Because addicted women seldom seek prenatal care, this is not an accurate picture. Nearly 70 percent of these women arrive at the hospital after the onset of labor, having had no medical intervention during the pregnancy.

A high percentage of the infants at birth are below the average weight. Among the consequences of a low birth weight, if the infant survives, are increased incidence of cerebral palsy, mental retardation, and visual and hearing defects.

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In 1978, 94 percent of females admitted for treatment, which is 62,713, were of childbearing years; namely, 15–44 years of age. That is why it is important that there be a greater awareness of this problem, and the reason we have asked the following experts in the field to speak before us today.

They are Dr. Richard Brotman, Dr. Loretta Finnegan, Miss Kattie Portis, Dr. Joan Stryker.

However, before we hear from them, we will hear from two women who are on their way—they are now here. We are going to start anyway with Dr. Brotman because I understand he has to leave to catch a plane.

Before going any further, let me present to those of you who might not know the chairman of our full Select Committee, the Honorable Lester Wolff.

Mr. WOLFF. Thank you very much, Madam Chairwoman. Just let me congratulate you for the leadership that you have shown in this area. As an ex officio member, you have taken leadership that I wish some of our full members would exercise, not only in this connection, but in the whole area of drug abuse, prevention and control.

I think that this is an area that has not received the type of attention that it should, perhaps because of lack of education, or just lack of attention to a very serious problem.

Recently we had a great many people who came down to talk about the whole question of the right to life. It would seem to me that the right to life extends also to the right of life of the child as an innocent victim of this type of situation.

Therefore, I am most appreciative of the work that you and the task force are doing in this area. I am anxious to learn a little more about the problem.

Ms. COLLINS. Thank you very much.

Our first witness this morning is going to be Dr. Richard Brotman, as I have said, the associate dean and professor of psychiatry, New York Medical College, executive officer, pregnant addicts/addicted mothers program that we are going to refer to as PAAM.

Dr. Brotman, welcome.

TESTIMONY OF RICHARD BROTMAN, ASSOCIATE DEAN AND PROFESSOR OF PSYCHIATRY, NEW YORK MEDICAL COLLEGE, EXECUTIVE OFFICER, PREGNANT ADDICTS/ADDICTED MOTHERS PROGRAM (PAAM), ACCOMPANIED BY FRED SUFFET, DIRECTOR OF RESEARCH, PAAM

Dr. BROTMAN. Thank you, and my appreciation to the committee for your kindness and consideration. If it is possible, I have——

Ms. COLLINS. Dr. Brotman, may I interrupt you? Please forgive me. I guess we have to swear you in. I forgot that. Would you raise your right hand please?

[Dr. Brotman was sworn by Ms. Collins.]

Dr. BROTMAN. I have the director of research of our outfit with me. He might take a place at the table in case you want some numbers or answers I don't have. Fred Suffet.

Ms. COLLINS. Yes. Please do.

Dr. BROTMAN. My purpose in appearing before you today is not to ask for more appropriations to support my special concerns, nor is it to make a plea for the widespread adoption of a particular treatment modality, nor is it to take issue with present public policy with respect to drug abuse.

Rather, it is to describe briefly the work of one of the handful of programs that presently exist for the care of pregnant addicts, and in so doing to raise a bit of hope and raise certain issues which I think should be included in our agenda of unfinished business.

The program I represent is called the pregnant addicts and addicted mothers program. It is part of the Center for Comprehensive Health Practice of New York Medical College in New York City. The program, which we who work in it refer to by the acronym PAAM, is one of about a half dozen such programs supported by NIDA in metropolitan areas across the country.

Before I describe the program itself, it may be helpful to say a few words about the situation that led to the establishment of PAAM and the other programs like it.

At present, about one-fourth of the opiate addicts enrolled in drug programs are women, almost all of whom are of childbearing age. This proportion has continually increased considerably since the 1960's. In New York City alone, approximately 1,000 addict births are counted annually by the city's health department, and these are only the ones that come to official attention. The true figure is undoubtedly much higher.

Until the early part of this decade, when methadone programs became widely available, very few pregnant addicts received any prenatal care. In fact, most saw a doctor for the first time during their pregnancies when they appeared at a hospital to give birth.

It is not surprising, then, as shown by a study of nearly 400 addict births during the 1960's on the obstetrical service of one of our hospitals, that many of the women suffered from a variety of obstetrical and other medical complications and that many of their newborns were premature, of low birth weight, and, of course, addicted. What happened to these mothers and babies? No one knows, since few returned for followup care; but given the vicissitudes of life in the addict world on the street, the prognosis was probably not good for either party.

Since the early 1970's, more and more pregnant addicts have joined drug treatment programs, especially methadone maintenance programs, which means that at least some medical care has been made available to this population.

Nonetheless, as several studies, including one done by our staff, have shown, care for pregnant addicts typically remains rather fragmented. Drug treatment is given in one place, prenatal obstetrical care in another, and pediatric care in yet another, if at all.

Staff members of the ordinary drug clinics which see pregnant addicts—and we have held discussions with many of them—are themselves keenly aware of this fragmentation, but are at a loss to change the organizational systems which create and maintain it.

That's where NIDA enters. In the mid-1970's, recognizing this as an important area of public health concern, NIDA began to support a number of programs for the care of pregnant addicts. PAAM was

one of them. Inaugurated in February 1975, PAAM is designed to provide long-term comprehensive care to 110 pregnant addicts and their families. By this, we mean that a full range of services addressed to the medical and social needs of these families is available within the program and that care is continuous from pregnancy through childbirth, through the early infancy years.

Specifically, the program services include, first, methadone maintenance, usually at a low dose through delivery, after which the mothers are encouraged to detoxify if possible. In fact, many do detoxify. Of the women currently on the program, about two-fifths have come off methadone.

Second, there are medical services, including obstetrical, pediatric, and general medical care, and the delivery of the baby at one of our affiliated hospitals. This care is given, not only to the pregnant addict herself, but also to her older children and other members of her family.

Third, there is counseling, oriented toward family relationships and also toward helping the patients manage the many practical problems which confront them in housing, income, legal involvements, and so on.

Finally, but by no means least important, there is a unique feature of PAAM; that is, the parent education portion. Since most of our patients, having little education and few job skills, subsist on welfare, we stress the value of parenting as a worthy career in itself. Parent education in PAAM begins with a series of prenatal classes on the nature of pregnancy, self-health care, nutrition, and preparation for childbirth.

Once a woman delivers, parent education continues until her child is 2 years old. Instruction is given in weekly classes comprised of 8 to 10 mothers, and we have six such classes in all. The focus is on helping the mothers to understand what behavior to expect at different stages of the baby's development, as well as on infant care and child-rearing techniques.

The program also includes a preschool nursery for about 50 children who are over 2 years of age. Here, we help the mothers enroll their children in day care or school when they reach the appropriate age.

So you can see that PAAM is, as I said, comprehensive. It is also very demanding. We give very little take-home methadone, so all patients on methadone must come in at least 6 days a week for their medication. Patients must see their counselors at least once a week and must keep to a regular schedule of prenatal and postnatal medical examinations.

They are also expected to participate in the parent education classes. Despite these demands, the women tend to stay with the program. Most of them join PAAM in the second or third trimester of pregnancy, and almost all stay through the delivery of the baby, with over half remaining with us until the child is at least 1 year old.

Why do they stay? After all, most other programs are far less demanding. Obviously, they recognize that they are getting something from the program. The question is what?

To some extent, the answer to this question lies in the results of the studies we have conducted to evaluate the program. For example, a study of the first 105 births on PAAM found that the rate of obstetrical complications and adverse neonatal conditions such as prematurity

and low birth weight was markedly lower than for untreated pregnant addicts.

This study also showed that the earlier in her pregnancy we saw a woman and the more often we saw her, the better was the outcome. In other words, the timing and frequency of care make a real difference.

In regard to what happens to the babies in infancy, we now have a study underway which traces their medical and developmental status up to age 3. However, a preliminary look at 60 infants born on PAAM found that overall, their psychomotor and cognitive development has been remarkably normal.

Moreover, contrary to what one would expect, we found that the initial deficits such as prematurity suffered by a small proportion of the babies did not affect their performance by 1 year of age. We suspect, though in fairness cannot prove, that the parent education classes in which mothers are taught how to foster their children's development were important in bringing these children back into a normal developmental course.

Finally, in a recent followup study of 100 patients, we found that the great majority said that the program had been helpful to them in dealing with a broad range of problems, and that when help had been given with a particular problem, the troublesome situation usually improved.

Furthermore, we learned that giving help in certain areas, such as drug use and health, creates "halo" effects, meaning that not only do these areas improve, but so do other areas such as family relationships, housing, leisure activity, and legal involvements.

In short, we have found that our patients recognize and value the kind of comprehensive care PAAM is able to provide. Most of them have normal pregnancies and deliver healthy babies. Those who have a legal or common-law spouse usually report that their marital relationship has improved and that the father actively helps with infant care.

The large majority comment favorably on the parent education classes. Many, with the program's help, have secured better housing, and for most illicit drug use has sharply declined as has illegal activity aimed at generating income.

All in all, PAAM, and undoubtedly the other programs like it, has achieved a considerable measure of success; and it goes without saying that, in my opinion, we need to continue these programs and support new ones. But now, I would like to look past our present achievements for a moment and speak to certain issues that have emerged in the light of our experience.

First, how can we bring comprehensive care to those settings in which most pregnant addicts are treated? I alluded earlier to the fragmentation of care that typifies treatment in such settings and to the frustrations felt by the persons working in them. Right now, these people have the will, but not yet the way, to change things.

The answer, unfortunately, is not to be found in the medical or drug journals which are fine, for example, for communicating to individual practitioners the best method for treating an addicted infant, but not for bringing about organizational change.

One answer, perhaps, is to support the current special programs as regional training centers which can send out onsite teams to those places that want assistance in developing comprehensive approaches to care delivery.

A second important issue pertains to the patients now in PAAM and the other special programs. By the time their children reach school age, they are usually gone from the program; but where do they go? Some go onto methadone maintenance programs while others face an uncertain future. We may as well face the fact that many, possibly most, will continue to depend on welfare, publicly supported medical care, and other such services.

If we don't want the initial good work of the special programs to come eventually to naught for mother and baby, we had better begin now to develop some form of long-term after care so that patients can return for help when they need it.

Finally, what of those who are the most successes, those who have given up drugs, enrolled in school or found jobs, and moved to new neighborhoods? We have found in doing followup interviews that these women don't want to step foot in PAAM any more, though they still need certain services, because they no longer want to be identified in any way with the addict world.

We have enrolled a few of them in a general health-care facility we operate apart from PAAM, but this is simply a stopgap measure. We need to learn how to give them a sustained measure of programmatic support for as far as they have come, any severe crisis could jeopardize these hard-won gains. To do any less would be implicitly to renege on the promise of care we made in the first place.

In general, then, the question is how to apply the lessons we have learned and extend care, both across space to other places and over time to the families who no longer fit into our programs as presently structured. The challenge is complex, but clear. The response must be made by all of us—legislators, public officials, and treatment professionals—working together.

Ms. COLLINS. Thank you, Dr. Brotman.

Before I get into the questioning, I want to recognize the fact that Mr. Dornan who is the co-Chair of this task force is with us now. Mr. Dornan?

Mr. DORNAN. Thank you very much, Madam Chairwoman. I will make any remarks later on as we take testimony today. I just want to thank the gentlemen for being with us this morning and apologize for being a little late.

Sometimes a Congressman has five committee hearings at the same time. My schedule this morning is everything from can we fight in the Persian Gulf to shall we land a surface satellite on Haley's Comet, if you can believe that, to coal gasification.

Dr. BROTMAN. That has the highest priority, I take it.

Mr. DORNAN. To tell you the truth, the reason I am here is because all of these other things are so frustrating to get a handle on, and one of the things I enjoy most about this remarkable committee is here is a chance to help people one on one and to really feel at the end of a hearing, if you get the word out, you are literally going to save lives and suffering—mainly in this case the suffering—of these young mothers and the innocent children they are giving birth to.

So I just can't congratulate you enough for the excellent work you are doing in this area.

Dr. BROTMAN. Thank you, sir.

Ms. COLLINS. Thank you Dr. Brotman, I was very, very interested in your remarks. You say on page 1 of your statement that the true figure for the city of New York is probably higher. Can you tell me how much you might estimate it to be higher? Would it be roughly double?

Dr. BROTMAN. I think it would be larger than that.

Ms. COLLINS. Even larger than double?

Dr. BROTMAN. Yes, ma'am.

Ms. COLLINS. That is really shocking. Certainly, we know it is very well true.

You mention on page 2 that you have a full range of services addressed to the medical and social needs of these families in your program. Well, I suppose NIDA has helped you to do that. How many such organizations are there in New York to handle the amount of women? Are there too few or too little, and how many give the full range of services that you do?

Dr. BROTMAN. We are the only one at the moment in the city of New York or State of New York that have that kind of comprehensive care. That is, all the services are under one roof with all full-time personnel. I don't know of any other that does that in the city of New York or in the State.

Ms. COLLINS. And you take care of roughly how many?

Dr. BROTMAN. About 110 families.

Ms. COLLINS. That is not even a drop in the bucket, is it?

Dr. BROTMAN. It is not a drop in the bucket for even outside our own door. When Mr. Wolff came with his 40 to 50 people from the United Nations that day, we had such a mob outside—if you remember, Mr. Wolff—the garage was so filled with people, the women couldn't make their way to the clinic, that it shut the women out.

We don't do very much in terms of the whole group that is available.

Ms. COLLINS. Dr. Brotman, are most of the OB-gynecology doctors prepared to treat a woman with a drug problem during pregnancy, to your knowledge?

Dr. BROTMAN. In our program or in other programs?

Ms. COLLINS. In other programs as well.

Dr. BROTMAN. I think they are ready to treat if they had an opportunity to understand a little bit about what they are dealing with in lifestyle, and so on.

Loretta Finnegan will tell you more about how she has brought that to some of her people, but the answer is, yes, they can, and they can do a very good job if they are taught a little bit more than they are usually taught in the normal programs of training. It is not that difficult if you are committed.

We have some residents who after training do very, very well in a place like Metropolitan Hospital. They respond, yes. It is not hard to teach.

Ms. COLLINS. Can you tell me roughly what accounts for those births which do not come to official attention?

Dr. BROTMAN. Well, every hospital in the area delivers these kids. Forty feet away, there is another hospital, different from us, and they deliver these kids, but they have no program; they just deliver them, 5 days out, finished. I would say that nothing happens to them. They are treated as if they did not have a singular problem or a dif-

ferent problem, and they go back out on the street with the so-called referral which turns out to be more of a routing than it does a referral.

There is no necessary hand-to-hand touch so that you can get the services. They are just sent back to fend for themselves.

Ms. COLLINS. I am interested in knowing, and perhaps you can help me, what happens to the infant who is born with an addiction. How is that child treated in such a hospital where they don't have the full service for the mother and the child?

Dr. BROTMAN. In general, they treat them medically as if they were to be detoxified themselves and have a much longer stay as a result. They are treated with certain drugs to minimize the discomfort and problems that the baby has. That percentage would be generally much higher than the percentage reported in our program or reported in Finnegan's program or reported in Stryker's program.

I think we all pretty much recognized if you are geared toward an understanding of this problem and you deal with it from the very beginning, the percentage of youngsters who suffer from problems associated with detox or any other problem is significantly lower than in a project where they are just treated as if they were another obstetrical case. It is significant, very significant.

Ms. COLLINS. What happens to the mother, then, when a mother finds herself pregnant and has been on, say, heroin for 3 months already, and then she goes into the methadone program? Do you have any kind of study that shows the likelihood of the infant being born without these kinds of problems?

Dr. BROTMAN. Yes. If you want some figures here, based on the 200 cases that we are talking about being born in the program, the percent of premature youngsters, less than 37 weeks gestation, is 20 percent. The percent of low birth weight, under 2,500 grams, is 23 percent. And the percent treated pharmacologically for withdrawal in this population is 14 percent.

Now, if you look at the data, other than the ones that are going to be described to you today, they are twice as high. And that is significant. I think that in regard to deaths—that is, mortality themselves—we have had of these 200, 5 infant deaths in the period of 3 years and some odd months. There were two crib deaths which occurred at 2 months of age. And two babies died while still in the hospital, one of septicemia and one of hyaline membrane disease. And one was anacephalic.

That percentage is lower than what normal children, normal families, in East Harlem have as a part of their normal birth. So that if properly cared for over time comprehensively, without any tricks and without any new, fancy developments, just plain good, solid, continuous care under one roof so that people can follow up and get it, there is no reason to believe that they will be in any greater difficulty than their sibs or norms.

Ms. COLLINS. What happens when a mother comes in and she has been addicted, and she is then on methadone? Do you test her to see whether or not her urine is dirty during the process?

Dr. BROTMAN. All the time, yes.

Ms. COLLINS. Is there a percentage whose urine is dirty?

Dr. BROTMAN. Sure. It may amount up to 20 percent at a given time.

Ms. COLLINS. What do you do? Do you begin to concentrate?

Dr. BROTMAN. Yes; we get on her back and stay with it. We never throw people out, however, we never exclude. We stay with them, knowing what we are dealing with and trying to change that.

Ms. COLLINS. Do some of the women then feel they are being harassed because of this and refuse to come back again?

Dr. BROTMAN. No. On the whole, we lose, I think four a month by attrition which is not a whole lot in terms of number. Frankly, no. There is a lot of peer pressure.

The other factor is that when these ladies go into this process, they have a tremendous amount of pride and a tremendous amount of concern about their baby, particularly if they are together in this program. And there is a great deal of peer relationship and staff relationship. It is an interesting place. It is a much warmer and more comfortable and normal place to be.

I sometimes wish before my wife gave birth to our two kids she had been in a place like this. I think she would have been more comfortable.

But they do feel comfortable about it. And there is a tremendous desire to see that the baby is born free of complications on the part of the mothers. There are some who have a very hard time. And with these, we have to work awfully hard, but we move both in and out of the program, move into the homes regularly, and try to press these issues.

And the results have been, I think, quite amazing for just normal care.

Ms. COLLINS. Thank you very much. Mr. Dornan.

Mr. DORNAN. Thank you, lady chairman.

Doctor, your clinic maintenance drug-dependent women on methadone, what dosage level and is this dosage harmful to the fetus?

Dr. BROTMAN. In general never more than 40, and at the time of delivery somewhere around 20 milligrams.

Mr. DORNAN. And then it is not considered harmful to the fetus?

Dr. BROTMAN. Nobody really knows, but the fact is that in general, our findings are that it has not had any effect in any major way except as I say in that 14 percent of births where they show symptoms.

Mr. DORNAN. Do you explain, then, these possible harmful effects to the pregnant mother?

Dr. BROTMAN. Oh, sure, all the time. We start from the very beginning, hopefully if we get them early enough in the fourth or fifth month—third, fourth or fifth month—we have a good shot at it. If we get it in the eighth month, we have a lousy shot at it. But we still stay with it either way.

The results even there show a difference in the babies born of these mothers. They are much, much healthier.

Mr. DORNAN. Since each person is different in their reaction to drugs in general, do you ever vary the dosage of a pregnant mother?

Dr. BROTMAN. Oh, yes. Yes. There is no uniformity across all. Each one has their own process, and each one has their own chart. There is a relationship between how long they have been using, how intensively they have been using, the kinds of stuff they have been using.

As you well know, Mr. Dornan, there is no such thing as a single addict any more. You don't have a heroin addict, a methadone addict. They use everything. And to think that they don't is to be without

knowledge. And so we have to very carefully measure all of these potential substances that are in the women and be very careful about what happens to them. And we do that very carefully.

And, well, you will hear a little later it is the narcotic withdrawal index process that goes on for measurement of the baby at birth to determine what exactly is happening, the mother before. Technically, we are very careful about that.

Mr. DORNAN. Is this realization now very widespread in the medical field and in the criminal field that there is no drug addict specificity any more? I have often felt that the market dictates where something is not available, you go for something else.

Dr. BROTMAN. No, people dictate; it is not just the market. The market has always been available, more so now than ever. It is simply a question of style, the particular areas. And as you know, it has gone across social class now so that it is no longer a product of blacks, Puerto Ricans and poor or women; it is in everybody.

And in all of our programs now, even the ones that cater to wealthy people in New York, Philadelphia, our community, we use a standard of inquiries having to do with drug use because we have found a lot of it among everybody.

I think if anybody is in this field, it is a fact it just depends on where you are getting your money from as to how you want to describe your population. But they are all mixed addicts.

Mr. DORNAN. One final question, Doctor. In any research sampling of children born to mothers who are addicts, where you try to track their growth throughout their earliest years, how far back can we go? What is the best reasonable sampling of children where we can say we followed this young boy or girl through their fourth, fifth, or sixth year?

Dr. BROTMAN. We are up to what, 3½ now?

Mr. SUFFET. Yes.

Dr. BROTMAN. We go from birth to 3½, data for a couple hundred and larger.

Fred, maybe you could answer that better than I.

Mr. SUFFET. At the moment, at least to my knowledge, Congressman, there aren't that many developmental studies around. Some of our colleagues have done them. That is just because it is such a new phenomenon, the whole business of children born to addicts, at least new in research terms. So at the moment, we are seeing studies where children have been tracked up through 3 years of age.

We are doing a study like that now on our own patients and one or two studies which take them a little further into the preschool or up to the first grade level. But that is about as far as anyone has gone yet because in order to do the study from the time of birth, knowing that the child was the child of a mother addicted while pregnant and identified as such, you have got to be able, then, to identify that kid and track that child over time.

It is not an easy process because in many programs, or, let's say, the typical methadone maintenance program, the mother may be long gone from the program by the time the child is 6 months old or 1 year old. And since it is a fairly transient population, people moving around a lot, changing addresses, it is hard to keep tabs on them, to follow them, so you can come back and take a look at a kid when that child has reached kindergarten age.

Mr. DORNAN. The reason I asked this is it may be an area where the Congress of the United States can really help. I saw the Public Broadcasting System special on the human brain the other night. And NBC has been running a series in the morning on the Today Show. And two of the facts that stuck in my head, one is that we are using the brain, our brain, to study the brain, which is limiting in itself.

And even as far as medical science can see in the future, we frail human beings will not be able to understand the complexity of the brain within our lifetimes no matter what type of breakthroughs we make.

The other one was that there are more cells in the brain than there are stars in the Milky Way. If you look at these commercials for one cigarette that says, "You have come a long way, baby," we have only had women smoking during pregnancy in this century really because of social restrictions, fair or unfair.

Also, I think pregnant mothers who drink are a social phenomenon of this century.

Dr. BROTMAN. Very big.

Mr. DORNAN. So if you take just these two chemical additives and take the complexity of the brain developing in that tiny fetus, I think smoking, liquor, drugs, all of this is just an explosive thing, what we are doing to ourselves. And if you look at the problem of the underdeveloped nations, it is not getting the right chemistry into the mother because of poverty and because of poor food conditions and no protein in the Sahel area of Africa. And here in the developing countries, we have added all these other chemicals, and we are bombarding that innocent fetus from the other end of the affluent spectrum.

And I think this is a fruitful and rewarding field for medical science to give every emerging human being a fair chance at life with a properly developed brain. So any suggestions you have how the Congress can act with these diminishing dollars we have in the Federal Treasury, it would certainly be looked at long and hard by this committee.

Thank you.

Dr. BROTMAN. Thank you.

Ms. COLLINS. Mr. Wolff?

Mr. WOLFF. First of all, let me say from personal experience, I want to express my approbation to the work done by Dr. Brotman and the program. We were able to take members of the U.N. to the clinic and to show them firsthand the problems of drug abuse and how it was affecting infant children.

I must tell you that it had a very significant effect upon the vote we later held on even considering problems of drug abuse as an international problem at the time. We have made a certain degree of progress in that connection ever since that visit. So you have contributed more than just the day-to-day progress that you are making.

I am concerned that we are really not putting this whole problem into perspective. This is not criticism, but it is merely a lack of information. When we talk about New York City, and you talk about approximately 1,000 addict births counted annually by the city's health department, this doesn't reconcile very well with the known figures that we have of the addict population and then extrapolating from that the number of women in childbearing age that are possible targets of this.

The figures could be perhaps almost similar to what we here call the Rangel formula of 10 percent. The Rangel formula states anything that there is, whether it is interdiction or anything that deals with drug addiction is now 10 percent. We interdict 10 percent of all that is brought into this country. We take this 10 percent figure and use it as almost a base figure.

It is undoubtedly going to be added to the other laws that we have as Rangel's law because Charlie Rangel was the one that started the whole question as to how much drugs were coming in from Turkey. He said 80 percent at that time. And all agencies dealing with drugs used that figure from that point on. No one knew the derivation of it.

Therefore, I find this 1,000 addict figure, the official figure, is really nowhere near the parameters of the problem that exists.

Dr. BROTMAN. Correct.

Mr. WOLFF. Therefore, I hope this committee will spend more time not only in just this hearing, but by undertaking an in depth examination of this overall problem because I see it partly, too, as Congressman Dornan has indicated, of the problems in our life in a chemical society.

You are talking now of problems if your treatment is of heroin addicted parents. We know from previous hearings that this committee has held, what the medical profession is doing to women by the use of tranquilizers. How many of these same women who are today bearing children are addicted to tranquilizers and what is the effect upon the infant? Where are we going in that area? Are these children suffering the same type of withdrawal?

We know there is some effect of tolerance or intolerance to these substances. Substances such as the tranquilizers that are being used vary widely in the so-called treatment of women for their anxieties and what have you.

Then, I come to one other point which has not been addressed here which I think is extremely important. We are talking now about the hard drugs. How about the recent information that we have gotten regarding some of the so-called soft drugs? And it is perhaps not the habit that is created physiologically, but psychologically or for that matter, some of the recent information that we have gotten on abuse of marihuana.

Does this have a physiological effect upon the fetus? We do know from certain studies that there have been a variety of effects that have been felt genetically as well on the fetus as a result of abuse, and overabuse. We are not talking of the occasional chipper of marihuana. That isn't even entered into the equation here.

I think one area that you could help us with is to give us some hard information on studies that will go beyond what you are doing now in the treatment area. In giving us information as to confirmation or refutation of some of the studies that have been made as to the physiological effects of abuse of substances like marihuana.

Have you done anything in that area at all?

Dr. BROTMAN. Mr. Wolff, we have tried very carefully to titrate our resources so that it is devoted toward the care of people as much as possible. And research, we have to sort of tag on. And we do; and it is important. We have tried not to deal very heavily with type, frequency, and amount of drug ingestion and its effect on behavior—namely, is marihuana worse than Valium or is Valium plus marihuana

plus alcohol worse than heroin, and get into that issue. The fact is, I can't think of how these drugs could be helpful to a pregnant lady or even a man who is not pregnant to any great extent under any conditions except where minutely appropriate.

That includes diazepam or Valium or any of the others. We know that it is overdone, and it is part of the industrial complex, and it is not only physicians, but large companies who are engaged in it. It is a big business. And we are not in a big business; we are in the big business of giving care to people. And that is a big business in and of itself.

We are having a hell of a hard time surviving on that. So in response to your question, marihuana and Valium and all of the other drugs are not helpful in this process at all. It is much better if the pregnant lady is not smoking or is not drinking and, for a fact, is not overeating which can be a pretty tough proposition.

But I think at the moment, what we have uncovered in this program and where we will continue to place our stress is that we really have found a way, easy as hell, to give people an awful lot of help and a way back almost as if they were normal as any normal person might.

I think we are going to try to continue to pay attention then to the fact that if you give a good parent education program under the same roof as a good pediatric program under the same roof as a good health care program to a family all in one place, not in a special place for addicts, you know, but all in one place, you are going to have a self-fulfilling prophecy. People are going to get better because the people who are giving care there expect that people will get better, not in a special little environment in somebody's basement where you stick some drug addicts with methadone in a place to dispense it as if it were a pharmacy, but in a place that has respectability from both sides, staff and patients, consumer and professional.

And I think that the other issues you are describing are important for pharmacologists to report on. How does marihuana affect the physiological process? Some people may be interested in that.

At this point in time, I must tell you that we are interested in what we consider to be an even more vital factor and that is we are seeing well babies developing beautifully in a process where half, before we came into the picture, were in the morbid or mortality index. That is a fantastic thing. And to then say, well, how many of those mothers now are still blowing grass, you know, I don't know.

And I am not so certain that frankly at this moment, it is that vital in the questioning. I am seeing mothers developing careers as mothers. And they love it. And they are doing one bangup job. And they are all people who have been addicted. And they are very good mothers and if you recall with beautiful children.

And your people who came that day couldn't get over the fact that they were such lovely kids, and they are lovely kids.

Now, I think that you have before you a lot of evidence, and we have got lots of numbers on this one, Mr. Wolff. We do not have the numbers on the effect of marihuana, the effect of Valium, on the birth process. It certainly can't be good. And we say to people, "Don't, please don't. It is not helpful."

But as you know, Mr. Wolff, in East Harlem, it is all over the street. And the street is not separate from our program. It is one and the same. We would be fools to think that the business is not bigger than us.

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Mr. WOLFF. I thank you.

And I thank you, Madam Chairwoman, for the time. I would just like to ask one further question.

Is there anything in the way of—I guess you would call it recidivism of the infant at a later date because of its prenatal experience of being prone to drug abuse in the future? Do you have anything on that?

Dr. BROTMAN. No; we have nothing on that. The only thing we are coming up with is what the rest of the literature seems to show in a fairly sizable number of kids at 3 years of age. That would be 4 years almost of worldliness, including the prenatal stage. There is some tendency toward irritability on physiological response. We are not sure what that means. But so far as reentering the world of deviation or criminality, we don't know yet.

Mr. WOLFF. Madam Chairwoman, I have to leave, but in talking to the NIDA people I wonder whether we can find out from them as to what their views are, not only on this particular subject, but on increasing the awareness of people to the problems of drug abuse during pregnancy and what active programs they have going in that connection.

Ms. COLLINS. Mr. Chairman, that is certainly a question we will be asking of NIDA.

Another member is now here with us, Mr. Ben Gilman.

Ben?

Mr. GILMAN. Thank you, Madam Chairwoman.

I regret, Doctor, that I didn't hear your testimony, but I have been skimming over your notes, and I certainly welcome you to the hearing. I am wondering how much of your program is funded by NIDA, what percentage of your program.

Dr. BROTMAN. Now? Twenty percent.

Mr. GILMAN. You mentioned that there are a few other agencies, a few other similar type of programs such as yours, across the country.

Dr. BROTMAN. Yes, sir.

Mr. GILMAN. Do you know how many there are?

Dr. BROTMAN. Like ours exactly?

Ms. COLLINS. Full service?

Dr. BROTMAN. As full services in all of the areas? Probably one or two. But I think—well, certainly Stryker and Finnegan both have. There is a place in Houston.

Mr. GILMAN. Your program started in 1975?

Dr. BROTMAN. 1975, February.

Mr. GILMAN. A pilot program?

Dr. BROTMAN. Yes, sir.

Mr. GILMAN. Funded as a pilot program?

Dr. BROTMAN. As a demonstration, yes.

Mr. GILMAN. Has there been any State funding for your program?

Dr. BROTMAN. Yes, we receive a significant amount of medicaid funding.

Mr. GILMAN. What percentage is State funding?

Dr. BROTMAN. Seventy.

Mr. GILMAN. I take it you see a need, then, for more such units across the country?

Dr. BROTMAN. Oh, yes. But they seem to be going the other way, Mr. Gilman. They are disappearing.

Mr. GILMAN. Do you recommend that the Federal Government embark on some program to encourage the development of such kind of programs?

Dr. BROTMAN. Yes. We have been pushing hard for that.

Mr. GILMAN. Where have you been pushing?

Dr. BROTMAN. We have been pushing in the city itself. We have been pushing among our representatives. We have been pushing in the bureaus, NIDA.

Mr. GILMAN. Have you taken it up with NIDA?

Dr. BROTMAN. Oh, yes.

Mr. GILMAN. Have you met with resistance in NIDA in developing a program?

Dr. BROTMAN. No resistance. They think this is a great program. They always say it is a great program and wish everybody would have such a great program. It is just terribly expensive.

There are changing priorities some of which have to do with staying alive and surviving in government. This is not one of them.

Mr. GILMAN. Does your NIDA funding come directly to you or through the single-State agency?

Dr. BROTMAN. Directly to us.

Mr. GILMAN. How much NIDA funding came to you last year in dollars?

Dr. BROTMAN. $220,000.

Mr. GILMAN. $220,000?

Dr. BROTMAN. About.

Mr. GILMAN. There is only one other program of this nature in the country?

Dr. BROTMAN. One or two. I think that probably Dr. Finnegan and Dr. Stryker and Dr. Wilson in Houston would say they are very similar. So maybe two or three.

Mr. GILMAN. You say a portion of it comes from the State. Where does the balance of your funding come from?

Dr. BROTMAN. Small foundations.

Mr. GILMAN. Thank you very much.

Thank you, Madam Chairwoman.

Ms. COLLINS. Thank you very much, Dr. Brotman. Your testimony certainly has been very beneficial to this task force.

Dr. BROTMAN. Thank you for being so kind.

[Dr. Brotman's prepared statement appears on p. 65.]

Ms. COLLINS. Thank you for coming.

Our next witnesses are going to be Gale and Susan.

First of all, let me thank you two for coming here to give us some insight we probably wouldn't be able to get otherwise. We want you to know how much it is appreciated. You have given of your time and yourselves to tell us about your experiences.

It is my understanding you do not have a prepared statement, but I would like to take 5 or 6 minutes to see if either of you, or both of you, want to give us just general comments before we bombard you with questions.

May I ask you both to raise your right hands and take the oath?

[Gale and Susan were sworn by Ms. Collins.]

Thank you very much.

We will start with Susan. Susan, why don't you just give us a general overview of anything you might want to talk about?

TESTIMONY OF SUSAN AND GALE, CLIENT'S OF WOMEN'S SERVICES CLINIC, D.C. GENERAL HOSPITAL, WASHINGTON, D.C.

SUSAN. Well, first of all, the doctor said about NIDA program they have in New York. Well, this is the base; I think we need that here, the same kind of prenatal, follow-up care and postnatal care, see if the child is OK and the mother after delivery.

We need a lot of funding the same as we have in New York because we don't have it. But we do have willing staff, willing to help us. But like I said, it is only so much they can do without the money, you know, the funds.

And then, we have a doctor that needs help. He doesn't have even the proper equipment to give the mothers complete physical examination. So we really need some more aid ourselves in the District of Columbia. And this is the Capitol, and this is New York City. And they have a better program as far as drug abuse and mothers, pregnant mothers, than we have.

And it makes me feel real bad, you know, because my daughter, she is one of those children, one of those statistics, you know, of drug abuse mother that was on methadone. But I was on methadone before I got pregnant so intended to be on it.

Like I say, the doctor, he really impressed me with the statements. And I feel as though we need that same program or something similar to NIDA here in the District of Columbia to help out the good staff members we already have.

Ms. COLLINS. Thank you.

Gale?

GALE. Well, I agree with her, but just like she said, you know, the people, they help us if they had the proper things and proper equipment to do so. And like my situation is different from hers because like I was using drugs the first 3 months of my pregnancy; then I went on the program.

But, well, when I did go on the program, I stopped using drugs completely. And my daughter is completely healthy and came home with me the same day that I came home.

So like I didn't know about the program until I had went. You know, a friend told me about the program. And I didn't know I was pregnant at the time that I was using drugs. But when I did, I went to the program, and they told me I was pregnant, and I was in my third month.

So I'm 22, and I wanted the kid because I didn't want to wait until I was about 40. So I went on and had the baby. And she came out healthy because I went to prenatal care and went and got my meth and just stayed out of the street.

But like people there is really willing to help us.

SUSAN. Like I say, like Gale, like she was saying, the prenatal care me and her, we went to prenatal. We took proper care, but this is not under where we get our methadone treatment. This is altogether separate thing, right. OK? Whereas we went and got prenatal care, there are other girls that will not get the proper prenatal care because they don't know, not because they don't know, but the fact they are in the drug life and the only thing is to get that drug wherever. And they need that.

So if this was a combined thing where we get our medications at, they would have to get the prenatal care which would make more healthier babies. It would eliminate a lot of problems and would save the city quite a lot of money.

Well, my child is healthy even though I was under the program from day one when I was pregnant and taking meth. But my little girl didn't go through very many withdrawals or anything. But I stuck basically to taking my methadone home. And the only thing was a preludin which did not affect her that much because I got a good counselor. And she got on me about it which made me eliminate that.

But we do need more prenatal care and health care to go along with the methadone care for our children and for ourselves.

Ms. COLLINS. Can you tell me when you began your habits? Was it long before pregnancy? And how long were you using drugs of some kind, either of you or both of you?

GALE. Well, when I started, I was 16. That is 6, almost 7 years ago. And I wasn't using it every day then. But the last 2 years before I got pregnant, that is when it became, you know, everyday thing.

And I knew I had to do something, and especially when I got pregnant. I knew I had to do something.

SUSAN. I started approximately 5 months before I joined methadone program. This happen about 3 years, 3 years in the whole with meth and all that—3 years.

Ms. COLLINS. Would you say that the reason why you really decided to go into this program was because you wanted a healthy child.

SUSAN. The reason why I got into it, I wasn't pregnant until I got into the program. I was tired of the street and tired of the drugs, chemicals. They can mix with so much different things, you don't know what you are taking half the time. And I didn't want to take chances on my health. And I knew I was in a very bad, depression state. If I got it, I wanted to use it. So to avoid using it, I preferred using something I knew has been approved by the SCC and is a drug that will not affect me as bad chemically as drugs on the street, you know, the black market drugs.

This is what made me get on the program. And, of course, when I found out I was pregnant, that made me stick with it even more so because I didn't want to make any baby have to go through the same chemical changes or mess up or get more than the mothers because I am adult. And if it is bad for me, it is going to be bad for the baby.

Ms. COLLINS. Gale, your basic reason is you didn't want to bring an unhealthy child into the world? Isn't that basically it?

GALE. Yes. But not only that, because of me. I had really cared to when I first went out there, I was young and hanging around with people much older than me and telling me to try this and it would be all right, just mainly influenced—people influencing me. But, you know, I'm all right now. I feel as though I'm all right now because my head is put on much better than it was back then.

But as long as this program stays open, I'll be all right, you know.

Ms. COLLINS. Who first told you about the Women's Services Clinic?

GALE. A friend of mine in the District of Columbia.

Ms. COLLINS And you, too, a friend?

SUSAN. No; it depends. I am a type person, I read a lot and was aware what was going on, keep up with current events. So I found about the situation, taking methadone maintenance and all that. So I went and signed up from reading it—something published by the Department of Human Resources, one of those pamphlets, brochures. That's how I found out about it.

Ms. COLLINS. Do either of you know whether you used other drugs during your pregnancy?

SUSAN. I did. I tried one.

Ms. COLLINS. You did?

SUSAN. Yes, I did. I tried other drugs, but not during the whole pregnancy. It is called Preludin, I did. I had a counselor, like I said, made me get myself together. And because of her, I got a healthy baby today; thank God for her. But other than that, I didn't use any. Heroin was definitely out; I don't use that now. I can't stand it. I'm afraid of it.

GALE. And the first 3 months of my pregnancy I did use heroin and Dilaudid and Preludin the first 3 months.

Ms. COLLINS. That was before you went to the clinic?

GALE. Yes, because I didn't even know I was pregnant.

Ms. COLLINS. Once you found out you didn't do that?

GALE. I stopped it all.

Ms. COLLINS. That's very impressive. Did the doctor at the prenatal clinic deliver your child?

GALE. Well, like I had my baby in Prince Georges County. And I went to prenatal care in P.G. up at the hospital. And that's where I had my baby at, too.

Ms. COLLINS. What about you, Susan?

SUSAN. No, because Dr. Peterson doesn't have—he is not connected with the hospital to be able to deliver our babies. This is where I am speaking of this thing. We do need to have a doctor especially to deliver our baby, followup. One specific staff without having to have so many hands in the pot.

No, my doctor was a private doctor I had all along. He delivered my baby, and she has a private pediatrician. It is separate from the clinic, has nothing to do with the clinic. But he is a specialist in meth children, knows about them.

Ms. COLLINS. Your own personal doctor?

SUSAN. No, her personal doctor and mine It is two—pediatrics, obstetrics/gynecology.

Ms. COLLINS. But there was no way at the clinic you could have had one doctor provide you complete service because it is not a full-service clinic?

SUSAN. No; I wish we could because we don't have the funding.

Ms. COLLINS. Did Dr. Peterson give you the methadone every day?

SUSAN. Yes; he prescribes it, and he says we have minor problems he can deal with. He has the facilities to deal with them, but he doesn't, say, like the proper equipment to deal with a major problem like he would like to.

Ms. COLLINS. But he did give you your physical examinations and so forth?

SUSAN. Right. He is at a standstill. He has been trying to get these funds, but——

Ms. COLLINS. Nothing?

SUSAN. Right.

Ms. COLLINS. Did either of you have complications before your pregnancy?

SUSAN. No; I didn't.

GALE. No.

SUSAN. I had a beautiful pregnancy.

Ms. COLLINS. Neither of your children suffered from any kind of withdrawal symptoms?

SUSAN. Only the little minor ones of shaking, a little shaking, that sort of thing, not the heavy withdrawals, no. My baby, as a matter of fact, she doesn't shake in her sleep. When I brough. her home, the 10th day, I brought her to the clinic, and the counselor saw her; she doesn't do all that shaking babies do because they go through withdrawals. She was a perfect, good baby.

Ms. COLLINS. Immediately upon birth, she didn't have any of those symptoms?

SUSAN. No.

Ms. COLLINS. None at all?

SUSAN. Not at all.

Ms. COLLINS. Who takes care of your child?

SUSAN. My husband, my friends, sisters, and brothers. But right now, a friend of mine is taking care of her.

Ms. COLLINS. While you are here?

SUSAN. Right.

Ms. COLLINS. What about your child?

GALE. Well, me and her godmother.

Ms. COLLINS. Are your children seen regularly by doctors?

SUSAN. Oh, yes.

Ms. COLLINS. To monitor their well-being, any possible side effects, anything like that?

SUSAN. Oh, yes. That is why I have a specialist. This particular Dr. Zimmerel, he knows about methadone children. He dealt with most of the girls. Well, five girls attend my clinic. They are the ones that referred me to him. And he is a good doctor. He does know about, he is aware of, methadone children and drug children. And he is doing a very good job with her.

But that has not even been a problem with her. She is as normal as any other child. If you put her against a mother that doesn't use drugs, you wouldn't know the difference between the two children because they are normal. They act just as normal as any other.

Ms. COLLINS. How many children do you both have?

SUSAN. I have two.

GALE. This is my first one.

Ms. COLLINS. This is your first child. Do you see any difference between the two children of development at the age your daughter is now?

SUSAN. That is what I'm talking about. There is no difference. They are both just normal. I wasn't on any drugs with the first one. She is eight years old now.

Ms. COLLINS. Your youngest's development is just right on par?

SUSAN. The same.

Ms. COLLINS. Very good. This is my final question because I don't want to take up all of the questioning time.

Have either of you ever worked with the Mayor's Commission on Infant Mortality?

SUSAN Yes; I did. I tried to be a part of that. I sat in on this meeting. The day they had the task force over there, the clinic—before I was a clinic counselor. And infant mortality rate, I know, is very high. And I'm very concerned about it myself personally. And they say they are going to do something, but I haven't seen anything, personally. I haven't seen anything that they are doing to try to help the infant mortality rate in the District of Columbia at all.

I still see infants dying just like old people and young people dropping dead on the streets. Babies are dying. I just don't see any improvement. If there is, I don't know anything about it, and I thought there would be.

But I have been at the Mayor's task force meeting. As a matter of fact, it was held over there at the clinic. And it is within the administration, it seems to be within the administration. I don't know why.

Ms. COLLINS. Mr. Dornan, I think this task force could possibly look into that from a different perspective. What do you think about that?

Mr. DORNAN. I think so.

Ms. COLLINS. That is one thing this task force will begin to look at.

Mr. DORNAN. I'm sorry to have used up so much time, but I was very interested in what you ladies have to say as we all are. Thank you, Madam Chairwoman.

You are both very articulate so I think you can help me with two areas here.

One is something I don't know as much about as I should. That is the whole methadone program. And you are obviously looking at it from the inside out. Did anyone at any point during your pregnancy—and you would both have a different perspective because you were on the methadone program, Susan, and before you got pregnant——

SUSAN. Right.

Mr. DORNAN [continuing]. Suggest total detoxification out of fear—we don't know what methadone could do to the developing fetus?

SUSAN. I see what you are saying. I had thought of it, but I remembered back when I had been on meth without being pregnant, and I detoxed. This was on the Prince Georges County methadone program which she was on in Cheverly. And I'm telling you, I was only on it 1 month, and I almost died. I suffered very badly. So I figured if you suffered that bad being by myself without having the baby in my, right, that I felt that it would be much worse and the baby would die and I possibly.

So it would have been better to stay in the program and maybe to keep my methadone and bring it down if necessary, myself if necessary, and try to keep up with my prenatal care, take my vitamins and take care of myself. And it worked.

Mr. DORNAN. And you did discuss this with your doctors?

SUSAN. Oh, yes.

Mr. DORNAN. How about you, Gale? Did any doctor suggest maybe you should try and taper off the methadone?

GALE. Yes. I was out in Cheverly. That's where I was when I was pregnant. And they suggested if it is before, you know, not over 6 months, before the 6-month period, they said, you know, you could detox while you was pregnant. OK? They tried to do that with me.

But I felt some complications. And like you could feel the baby kicking more than usual. And I told him that wouldn't be a good idea, you know, as far as I was concerned because I was scared. You know, I didn't want nothing to happen to my baby, so I told him I would prefer to continue the whole 9 months, but, you know, just you can drop me as low as I can take it. And that's what they did.

So I was on a real low dosage before I went to have the baby. But I don't think it is a good idea.

SUSAN. I don't think it is a good idea to try to detox a woman that is pregnant, on methadone, especially if she is on the program before pregnancy.

Now, if she is pregnant and coming into the program and had not been on it during pregnancy, that is a different question. I don't know whether they should be detoxed or not. That is up to them individually.

Personally, I felt it wasn't right for me at all. It wasn't because I knew my baby would die.

Mr. DORNAN. How much methadone did you take?

SUSAN. I guess I take about 35 or 30 milligrams.

Mr. DORNAN. Per day?

SUSAN. Per day.

Mr. DORNAN. How about you, Gale?

GALE. Maybe 15, 20.

Mr. DORNAN. How about yourselves as mothers of growing children? Do you look forward to detoxing off methadone next year, the year after?

SUSAN. Oh, yes.

Mr. DORNAN. What are your long-range plans?

SUSAN. Yes; I intend to detox. I want to detox. But unless I feel I am strong enough to be able, then it takes time because the fact I am a mother and I have to give my attention to my child, and she is growing, see, I can't snatch myself off a program and not be able to take care of her at home. I would be weak.

It takes being weak, tired, can't take care of myself. I can't function as a human being without it properly. So because of this, this is one reason why I have to wait until she is a little older or conditions change where I could send the baby with my sister, one of them, that could keep her. Then, I can go in the hospital and maybe try to detox off of it, right?

Well, I intend to definitely get off because I have future plans, and I want to have my child run and for myself. And it does not include drugs.

Mr. DORNAN. Gale, you know the songs from the film, "Rocky getting stronger, getting stronger"? Do you feel yourself getting stronger to where you are thinking about coming off?

GALE. Oh, yes, a whole lot. Like I said, I used to mess around every day. And now, I'm not going to say the whole time I have been on the program that I haven't messed around, but it hasn't been as half as much as I used to. And like I plan to detox very soon because it is not only detoxing, but it is really up here. If you get it in your mind that you can detox, you can do it. You can do it.

But if you listen to what other people tell you, about it is going to hurt, it is going to feel like this, it is going to feel like that, you are going to push in your mind it is going to feel like that, and it might not even be like that.

But if you be strong about it and, you know, say you can do it, you can do it.

SUSAN. Then, depending on the dosage she is on as well.

GALE. That you are on?

SUSAN. That you can do it because if I was on 15—and I wish the hell I was—excuse me; I wish I was—I think I could do it on 15. It would be hard because it was hard for me at first without a baby, right? But if I could do it on 15, if I was on 15, I would try it today or tomorrow.

Mr. DORNAN. My final question involves an area maybe a little bit difficult to answer. It is an expression we have all used all our lives. And we really don't understand what it means. It is called the mother instinct. We have all read stories about a mother dog defending her little puppies from a pack of wolves. And I have had lots of litters of kittens over 46 years of owning cats and puppies and watching that mother instinct, defend her young.

And then one other thing to set up the question a bit, when I hosted television talk shows for 10 years through the wild sixties, I would have young people generally come on from one drug program after another. And one statistic that always amazed me was that government-run programs that were just straight on the facts had a success rate of less than 5 percent. The kids just kept recycling through the drug programs unless it was based on religion.

And then, I would find one based on religion, if their figures could be believed would be almost a mirror image of the Federal or State programs. They would have a 90-percent success rate. You know, the young kids would say, "I found Jesus," something like that.

Now, this mother instinct to me is something like religion. It is something we don't understand completely about. It is bred over thousands of years.

Did you find when you were pregnant that this mother instinct that we see in a young cat trying to protect its kittens was something that came into your being where you wanted to protect that child in your womb so you took a new look at yourself in life and said, "I am going to fight for my baby"?

SUSAN. That is what happened; that is what completely made me not take any more drugs other than my medication and follow-up prenatal care.

As a matter of fact, I went to two prenatal clinics. Doctors said—well, I went to Howard and D.C. General. So it was a thing I intended to have a healthy baby and worked very hard at it. If it were not for that child, I wouldn't care because I was at the point I used drugs, I was depressed, and I didn't care. But that baby is what helped me with what, as you called it, the mother instinct, wanted to survive and wanted it to survive.

Mr. DORNAN. How about you, Gale? You started to nod even as I was posing the question.

GALE. Yes, because that is my first. And ever since I can remember, I always wanted a baby, but I really did not want a baby when I was messing around with drugs. I wish I had had her when I wasn't hardly doing it. Maybe I wouldn't have went as far as I had went.

But I know when I was pregnant with her, yes, I wanted her, and I really planned to just cut it all out completely because I love her to death, and I don't want nothing to happen to her.

And really if I can do it, I don't want her to ever know that I was going to the program and messing around with drugs. If I can hide it, I intend to do so. But I just hope——

SUSAN. Well, my opinion about that is different, of course. I don't care. I want my child to know it. I want her to know about drugs because I don't want them to ever have to use them. I don't want to hide the facts from them because you can't hide things like that.

If some mean, nasty person out there is going to tell you, you see. So I don't want them to say, "Well, Mommy is good, Mommy has used drugs, she know what it is about, and she knows they are bad, and she don't want you to use them."

So I am not going to go into a fable with my children. My oldest daughter, she knows about this and about me using drugs even through my pregnancy. I told her; I explained it to her and everything. So now her attitude is this: Mommy, I don't want it.

Mr. DORNAN. How old is she, Susan?

SUSAN. Eight and soon will be 9. And she is a very intelligent little girl. I believe in being honest with my kids.

Mr. DORNAN. A final observation because both of your approaches, we don't know which is right, and they have great validity to them. But what you have done is a very beautiful thing to come here today and give us your experiences of your own agony and this new life you found in your children.

And I would just suggest that whether it is finding religion or this deep mother instinct, it is a motivation in life, a reason for existence. And if you broaden this love for your own children as you have done by coming here today to try and help all children and to work in some of these D.C. programs, you have to bring some of the hard work and the insights of the doctor this morning to the D.C. area, that bigger motivation and spreading your love around will keep you from ever having to worry about that street scene again and helping other young women find the joy that you found in motherhood.

SUSAN. That's right. And not only us; it is not only the fact that made us feel, but it is the backup we had. Not only my family, I have a big family, not only they helped me, but my counselors, staff at the clinic and all backup. They have given me the strength they have to give.

These things meant a great deal to me because I was extremely depressed, very depressed.

Mr. DORNAN. When you are completely detoxed off methadone which may be easier said than done, please contact this committee even if this committee is no longer in existence because it is a select committee. One or maybe all of us will be here, and I would certainly like to know what course your lives take because, again, I repeat, it is just wonderful of you to come here this morning to try to help other people to get the satisfaction that I seem to see in both your eyes out of living today and taking care of those three beautiful children.

SUSAN. Thank you very much.

GALE. Thank you.

Ms. COLLINS. Thank you.

Mr. Gilman?

Mr. GILMAN. Thank you, Madam Chairwoman. I, too, want to join my colleagues, Gale and Susan, in commending you for taking the time and the courageous stand you have taken in trying to help our

committee and help others find some solutions to this very critical problem.

As young mothers, did you have any problem in finding out where to go for help? Was it difficult for you to find a place to go for help as a mother who is afflicted with a narcotic problem?

SUSAN. You mean as far as prenatal care?

Mr. GILMAN. Yes.

SUSAN. For me, no, because like I say, I keep up with current events, and I know. I know where I should go. Certain situations, I know, and I know about medicine.

Mr. GILMAN. You picked it up from a brochure?

SUSAN. About the clinic, yes. But prenatal clinic, I had a baby before.

Mr. GILMAN. At what clinic did you pick it up?

SUSAN. I didn't pick it up at the clinic; I picked it up off the street. It was flying up the street.

Mr. GILMAN. Somebody had probably disposed of it.

Ms. COLLINS. The Lord was helping you.

SUSAN. He was; I'm telling you. A lady was out passing them out.

Mr. GILMAN. Did that indicate where you should go for help?

SUSAN. It did.

Mr. GILMAN. Where did you first learn about this clinic?

GALE. A friend told me.

Mr. GILMAN. When you went to the clinic, were you offered any psychiatric help at all?

SUSAN. When I first entered the methadone program, I did see a psychologist, right, but I only seen him once, but that was a year ago, more than a year ago. But not under the program. I didn't start at Women's Services; I started at another program. And when I got pregnant, they sent me to Women's Services.

I seen a psychologist when I first came into central intake.

Mr. GILMAN. That is at Women's Services?

SUSAN. No. Central intake is when you first get to any of the clinics, whether you are pregnant or not. They decide what clinic you go to, right? This is when I seen the psychologist the first time I was being what you call evaluated. Yeah. This is when I seen a psychologist, once.

Mr. GILMAN. That is all you have seen a psychologist?

SUSAN. That is the only time; that's why I say we need more help.

Mr. GILMAN. What about you, Gale?

GALE. I don't think I never seen a psychiatrist.

Mr. GILMAN. Not at all? What type of services did they offer besides offering you methadone and telling you some of the things you should be doing?

SUSAN. Well, they follow caring. Like, for instance, if we had a problem that we felt we needed to see a doctor, it was referred to a doctor. We talked to our cocounselor which is a nurse. And she talked with them to see what the problem is and put in a referral to see a doctor.

Mr. GILMAN. Medical referral?

SUSAN. Then periodically, they took our blood pressure and our weight and said we should have been going to prenatal care, again prenatal care.

Mr. GILMAN. Besides medical service, was there any other advisory service?

SUSAN. Social workers.
GALE. School.
SUSAN. We had a social worker there.
Mr. GILMAN. If you want to see her?
SUSAN. Yes; if you request to see her.
Mr. GILMAN. Did you see the social worker?
SUSAN. I knew her personally. I see her sometimes, but I never get her assistance right there.
Mr. GILMAN. You never talked to her?
SUSAN. Yeah, talked with her.
Mr. GILMAN. Did she help at all?
SUSAN. The thing we talked about was not concerning our personal problems, but the project concerning the girls for all of us. It wasn't personal need.
Mr. GILMAN. Gale, did you have any other services besides the medical services that were entered by the clinic?
GALE. Yes. I saw a social worker, too, before they sent me to the place where I go. That's about it.
SUSAN. Which we have social worker there, too, at the clinic.
Mr. GILMAN. Has there been any followup at all by the hospital or by the clinic or by the Women's Services unit since you——
SUSAN. Followup of our children.
Mr. GILMAN. After the child was born?
SUSAN. Oh, yes.
Mr. GILMAN. What sort of followup?
SUSAN. They require whether we should bring in our books showing where the doctors wrote in whether she has gotten her shots. And they Xeroxed them, and they have seen the baby. Dr. Peterson has seen her, see how she reaction.
Mr. GILMAN. How many times has the doctor seen your baby?
SUSAN. Almost every day I bring her.
Mr. GILMAN. He examines your baby?
SUSAN. He goes down to her about twice.
Mr. GILMAN. How old is your baby?
SUSAN. She is about 13 months.
Mr. GILMAN. What about you, Gale? Has there been any followup?
GALE. No; not examine her. They have seen her.
Mr. GILMAN. But nobody has fully examined her?
GALE. Not at the meth clinic. But at the doctors.
SUSAN. As I said, because Dr. Peterson is not a pediatric, he is a gynecology/obstetrics, and he doesn't have the proper facilities and he doesn't have the proper staffing in order to do that kind of working. This is what we need and should have.
GALE. They just have one little tiny room.
SUSAN. That's why we have to go to other doctors or public health clinics or what have you. And most of the girls, they do. They do try.
Mr. GILMAN. My colleague, Mr. Dornan, talked about the mother instincts and how highly motivated you were when you became pregnant. Do you think that this is an opportune time for assistance to help you get off of a narcotic habit; that it is an appropriate time to really concentrate on mothers to be able to accomplish some worthwhile result when a mother first becomes pregnant?
SUSAN. I think it is always important regardless of whether you are pregnant or not to try to rehabilitate you so you become drug-free

completely. And it isn't just be for replaced on pregnancy only. I think it should be replaced on fact, period, man, woman, or what, to get you drug-free.

Mr. GILMAN. Apparently, your attitude changed somewhat when you became pregnant.

SUSAN. A great deal.

Mr. GILMAN. You had a greater concern about trying to kick the narcotic habit; isn't that true?

SUSAN. That's right.

Mr. GILMAN. Both of you agree to that? Then, do you feel this kind of attention that you should be focusing in on the pregnant mothers in doing more about trying to alleviate the drug habit at the time that they make themselves available to some medical services?

SUSAN. To alleviate it, meaning to make them withdraw? No; I don't think withdrawal is going to work. It is not going to work because if they did try, they are not going to go through with it. No. It is going to only become—it is going to be Pandora's box.

Mr. GILMAN. You are both talking about withdrawal now?

SUSAN. But we are not pregnant now. We can afford to talk that now. But being pregnant and being on meth or being on drugs, it is a different story. It really is too hard. And a lot of people have family support that is needed. You need support, mental support, financial.

GALE. Family is the main one.

SUSAN. Support you.

Mr. GILMAN. It is a whole lot of people here that don't have the family to stick behind them to help them along the way.

SUSAN. Or the father of the child.

Mr. GILMAN. Does the maintenance treatment program give you the kind of support you think you need to help you get off the narcotics habit?

SUSAN. They give us great support, oh, yes. This is one reason why we are here today. They have helped me a great deal. If you could see me back a year ago today, you will see a great improvement. Oh, yes.

Mr. GILMAN. While you are on methadone, are you both able to perform all of the household duties that you have to perform?

SUSAN. Yes; we are just as normal as maybe your wife if you are married or anyone else's, yes. We perform household duties, take care of kids. We discipline them when necessary, and we love them when it is also necessary, and it is normal.

Mr. GILMAN. How often do you take methadone?

SUSAN. We have to take it daily because we can't take it home, and it is a daily thing. We have to come over there daily.

GALE. The only thing is you can't go nowhere and stay a weekend.

SUSAN. That's the only thing that really makes it hassle. Unless we put in a request ahead of time.

Mr. GILMAN. If you make a request, is the methadone made available to you?

SUSAN. Yes, sir, if you have a good report and don't have use of drugs in urines and things.

GALE. If you are trying.

SUSAN. They know you are a good client, and you are trying.

Mr. GILMAN. Susan, how long have you been on methadone?

SUSAN. Approximately 2 years almost.

Mr. GILMAN. During that period of time, had you resorted to utilizing any other narcotic?

SUSAN. No, other than Preludin, and I told you I had a counselor that got on me quite bad about that. Other than that, I have not used any other drugs, no.

Mr. GILMAN. How many times did you use Preludin?

SUSAN. Well, before, you are talking beforehand or during pregnancy?

Mr. GILMAN. While on methadone.

SUSAN. While on methadone? I don't remember. Ten times, something like that. I really don't know. Probably more, but during pregnancy, not very many times at all.

Mr. GILMAN. And Gale, while you were on methadone, did you utilize any other narcotic?

GALE. Yes.

Mr. GILMAN. What narcotic?

GALE. Heroin and Dilaudid.

Mr. GILMAN. How many times did you use it?

GALE. Maybe once, twice a month at the most.

Mr. GILMAN. Did that utilization show up at the methadone clinic? Did you disclose it at the methadone clinic?

SUSAN. It comes out of the urine anyway.

GALE. Not all the time. It all depends what day you do it on because they take urine once a week.

Mr. GILMAN. So there would be occasions when it wouldn't be disclosed; is that right?

GALE. Yes.

Mr. GILMAN. Did you discuss it at all with the methadone people?

SUSAN. I have told myself personally, I have told my counselors whether it came up in the urine or not.

GALE. Yes; they know.

Mr. GILMAN. You disclosed it also?

GALE. Yes.

Mr. GILMAN. Is it less frequently today than it was when you first went on methadone?

SUSAN. God, yes.

GALE. Oh, yeah. A whole lot less.

Mr. GILMAN. Have you both been reducing your dosage of methadone from the time you first——

SUSAN. I have not lifted it or raised it; it has been the same. But, see, during my pregnancy, I could never keep it down anyway. So like up-chuck, you know, it would never stay down. So half the time, it was out of me more than it was in. So that is probably one reason why my baby is in such good health, too.

So like if I begin to reduce, I want to reduce, but I have to also go to my counselor and have a conference with him and feel whether he feels I should have a decrease or increase which is never going to happen, and I never want to increase it, but if anything decrease. The thing, I have to discuss with my counselor; we have to come to an understanding.

Mr. GILMAN. But in the 2 years' time, you have never decreased the dosage?

SUSAN. Yes, yes; I have, twice.

Mr. GILMAN. But then, you went back up to 35?

SUSAN. No, no.

Mr. GILMAN. You were up at a higher level at one time?

SUSAN. Yes, I was.

Mr. GILMAN, And you have now come down to 35?

SUSAN. If that is my proper dosage, I'm just guessing. I really don't know my proper dosage.

Mr. GILMAN. Gale, have you decreased your dosage?

GALE. Yes. Like when I first came in the program, I was on maintenance. And you know, when you first get on it, they start you at a higher, you know, on certain dosage. And then, they bring you down eventually. And I went down and stopped where I am at.

Mr. GILMAN. Again, I want to thank both Susan and Gale for their candid statements. I am sure your testimony is going to be important to our entire committee.

Thank you, Madam Chairman.

Ms. COLLINS. Let me say that both of you are really very excellent witnesses. You added a lot to our insight on this.

I have just one final question. And Gale, it was you, when Mr. Gilman was mentioning about other services, you mentioned the word school. Did anybody approach you about school or anything like that?

GALE. Yes.

Ms. COLLINS. Tell us a little bit about it.

GALE. Do you plan to go back to school or go back to work? And they give you some type of test to try to get you in school.

SUSAN. They have a job counselor that comes around. If a girl wants a job, they will assist you like give you an examination or go to school. Yes, they assist us in that.

Ms. COLLINS. Well, thank you, ladies, very much for sharing with us your experiences.

And as has already been said by members of this task force, this is beneficial, not just for the three members of us who happen to be sitting here now, but for all young people and people of childbearing age who have this kind of experience. And we certainly thank you for giving of yourselves to us.

SUSAN. That's what we are hoping. You are welcome. And thank you for having us.

GALE. Thank you.

Ms. COLLINS. Our next witnesses are Dr. Loretta Finnegan, who is the associate director of nurseries, associate professor of pediatrics, director of Family Center, Jefferson Medical College, Pa.

Joined with her will be Dr. Joan Stryker, who is director of the Hutzel Hospital Program for Drug Dependent Pregnant Women in Detroit, Mich.

And also Ms. Kattie Portis, who is director of W.O.M.A.N., Inc., in Dorchester, Mass.

I understand that both Drs. Finnegan and Stryker have film that they are going to show us; is that right? They have slides that they are going to show us. Maybe we can look at those slides now.

May I first take this opportunity to swear all of you ladies in?

[Dr. Finnegan, Dr. Stryker, Ms. Portis were sworn by Ms. Collins.]

Dr. Finnegan, you are the one who is showing the film; right?

Dr. FINNEGAN. Yes.

TESTIMONY OF LORETTA P. FINNEGAN, M.D., ASSOCIATE DIRECTOR OF NURSERIES, ASSOCIATE PROFESSOR OF PEDIATRICS, DIRECTOR OF FAMILY CENTER, JEFFERSON MEDICAL COLLEGE, PHILADELPHIA, PA.

Dr. FINNEGAN. I am going to share with you some information I have learned over the last 10 years while being involved with drug-dependent women and their children.

[Slide No. 1.]

I got into this area because I am a neonatologist, which is a baby doctor who specializes in the newborn period. My first experience was at Philadelphia General Hospital which was our municipal hospital where women from low socio economic classes were coming at that time and where a lot of women, even though they were not drug dependent, were still not obtaining prenatal care.

We learned a long time ago that prenatal care is essential for pregnant women. You have heard some of this from Dr. Brotman. I will try not to be too redundant because a lot of what I have to say has already been covered.

The pregnant woman needs prenatal care in order to avoid a host of obstetrical complications which may occur if she does not have this care. If she is drug dependent, she needs medical care because her drug dependency adds to a host of other problems.

[Slide No. 2.]

The care of these women—and I can't help but give you a commercial at this time—has been very nicely described in a booklet which I will leave available for everyone which can be obtained from the National Institute on Drug Abuse. It is entitled "Drug Dependence in Pregnancy: Clinical Management of Mother and Child." Dr. Stryker and myself and several other individuals in the country were able to work together in order to develop this management plan for these babies and mothers.

You see before you a pregnant, addicted woman. Why is she so different than any other pregnant woman who needs prenatal care? You see what she is doing? She is injecting a drug. And as far as she is concerned, medical care is the last thing in her mind. Her lifestyle is such that she spends most of her day high. And when she is high, she is sedated and tranquilized and is lost to all responsibility. When she is sick, she is only interested in getting her drug because she is having withdrawal symptoms which are very uncomfortable. Therefore, the last thing that she is thinking of at this point is to eat a good diet which is so important for a pregnant woman, to sleep well, and to obtain medical care.

In addition to this, she has a host of social and psychological stresses, such as anxiety, depression; she has poor housing or no housing; she has very few finances. [Slide No. 3—Obstetrical complications.]

Therefore, it is obvious that she is going to have many complications which will be detrimental to her and also to her fetus. These are medical conditions mostly pertaining to problems with the placenta or the afterbirth, whereby the placenta may come out first or the placenta may break off and therefore cause bleeding and subsequently the lack of oxygen to the fetus.

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This happens in the pregnant narcotic addict because she goes through episodes of withdrawal and overdose during her drug intake. As you all know, quality control of drugs on the streets is poor and, therefore, one day, she gets high-dose heroin, the next day she gets low-dose, and the next day she may get no heroin in whatever she purchases. So, therefore, she will have periods of withdrawal during which time her fetus will also withdraw.

When the fetus withdraws, the fetus will go through predictive symptoms, those of fetal distress. These include rapid movement just as the mother will have movement because of her withdrawal. The mother's uterus will begin to contract because the uterus is a muscle and muscles will contract during withdrawal. With this, the mother may have the onset of premature labor. If this does not occur, the infant will go through symptoms which include those that I mentioned of distress which will be, first of all, choking. The fetus will then pass its bowels in the uterus. The amniotic fluid is meant to be a clear fluid, but now, the amniotic fluid will look like "pea soup" because of the bowel movement. The infant may aspirate this and may succumb in utero or when born may be covered with the material and may aspirate it into its lungs at that time.

Overdose in pregnancy is also detrimental to the infant because the mother obviously is not getting enough oxygen at this time, nor will the fetus. A severe overdose may occur in a mother and she can survive the overdose, but the overdose may cause serious brain damage in the unborn fetus.

The most significant factor here is what Dr. Brotman mentioned which is the onset of premature labor. We learned a long time ago that low birthweight babies are in jeopardy. They are in jeopardy because they have 40 times the chance of dying in contrast to full-term infants. They have 10 times the chance of having cerebral palsy and mental deficiency and 5 times the chance of having lethal congenital malformations. So, we want to prevent the birth of small babies.

When I first began to care for these women and looked at the literature at that time, I found that the incidence of low birthweight in these women's children was 50 percent. That is, 50 out of every 100 babies could be small and be predisposed to the problems that I previously mentioned.

When we looked at the overall low birthweight statistics in our country, the incidence was about 8 to 10 percent. So these women had about five times the chance of having a low birthweight baby. Therefore, when we started our program, we wanted very much to reduce this. The secret was simple. It was getting these women in for prenatal care. [Slide No. 4.]

The other problems that we saw were those that were secondary to the total lack of medical care and the use of needles, needles that were not clean, needles that were used repeatedly and, therefore, the woman had a lot of infections, not only of the skin, but also infections of the urinary tract. Also, venereal disease was common because about 10 percent of our women were using prostitution as a means of getting money for their drugs. [Slide No. 5.]

The following show a few pictures of some of our patients. Here is the typical picture of multiple tracks from the use of injectable drugs. [Slide No. 6.]

Here is a swollen hand, secondary to the injection of drugs. This woman has lymphedema. [Slide No. 7.]

Here is a woman who has had multiple use and, therefore, has used up all of her vessels and now is injecting into her digital vessels. If one injects into the digital arteries, one produces a lack of blood supply and, therefore, the abscesses and ulcers that you see. This woman was coming in to have her fifth digit on the left hand removed. [Slide No. 8.]

This woman was 23 years old. She had used drugs since the age of 14. She had used up all of her vessels, and she was "skin-popping" that is, she was injecting the drugs under her skin instead of into her veins because she had no veins left. She came in at 8 months of pregnancy. [Slide No. 9.]

She had those ulcers as well as this one. This one was treated for 1 month prior to the time I took this picture. She delivered a severely growth-retarded infant who was hospitalized for several months. [Slide No. 10.]

When women have no other place to go, they can inject into the main vessels of the neck or into the breast as you see this woman has done. The result may be infections in those areas. [Slide No. 11.]

The baby. When I first started to read about these babies, I thought they were simply little babies that shook because they had withdrawal symptoms, and that was all I had to worry about. But I found out very soon that 75 percent of these babies had neonatal problems that are much more serious than the problem of neonatal withdrawal. These problems were secondary to the fact that 50 percent of these babies were small and, therefore, such conditions as hyaline membrane disease, hypoglycemia and hypocalcemia—low sugar and low calcium—and jaundice occurred in these babies simply because of their low birthweight and premature birth.

All of these conditions have a considerable amount of morbidity and a high mortality. If they were not small, they were frequently infants who suffered repeated symptoms of intrauterine withdrawal and, therefore, had asphyxia, neonatorum which means when they were born, they had a heartbeat and sometimes a little bit of respiratory effort, and one had to resuscitate them. One didn't know how long this lack of oxygen occurred and, therefore, the effect on the brain was a problem to consider.

I also mentioned the fact that these babies would have the expulsion of meconium which is the intrauterine bowel movement and, therefore, when they were born, they frequently aspirated this substance into their lungs and, therefore, had an aspiration pneumonia.

In addition to low birthweight, from the standpoint of premature birth, we also saw a reasonable number of babies who were intrauterine growth retarded. These are babies who although they are small have stayed in the uterus perhaps even as much as 38 to 40 weeks. These infants will not have hyaline membrane disease, they will not have the typical appearance of the low birthweight baby who was prematurely born; instead, these infants look like little old men and little old women. They have poor subcutaneous tissue and the possibility of aspiration pneumonia; they have obviously been starved in utero from the standpoint of nutrition and oxygen and may have low

sugars, low calciums, and have a 33 percent chance of long-term neurological sequelae.

[Slide No. 12.]

We also saw, in the early days, women who had deaths of their babies that were preventable had we had programs at that time for these women. At this time, if a woman came into a hospital in any city in our country and she said that she was pregnant and sick and she was recognized as a heroin addict, frequently, instead of being treated for her medical illness, the police were called, and she would end up in jail, still with her medical illness and with no treatment.

This baby's mother was concerned about this and, therefore, decided to treat her labor with heroin. Heroin is a very good painkiller, and she went through a very long labor, treating herself with her illicit medication. Unfortunately, she had something called cephalopelvic disproportion, which means the baby is too large to come through the birth canal, but as all fetuses are very much like a "battering ram," this baby kept battering through the birth canal.

In this slide, you can see the elongation of the head. She was brought to the hospital at the time just before she delivered by her friends because they were concerned that she had been in labor for so long. The baby was delivered in the emergency ward with this elongated head and only a heartbeat and only survived for a few minutes because of a very large brain hemorrhage as seen in this slide.

[Slide No. 13.]

This is a preventable death. If this woman had come in in enough time, the baby could have been delivered by cesarean section and not died.

[Slide No. 14.]

This is the typical appearance of the meconium-stained baby. This is the baby who has suffered lots of stress in utero because of repeated episodes of withdrawal or overdose. This substance that you see on the baby is what goes into the lungs and, therefore, causes the pneumonia.

[Slide No. 15.]

Mr. DORNAN. Was that a living baby?

Dr. FINNEGAN. Yes, that baby did survive. They do have about a 50-percent mortality rate.

This baby only weighs 2½ pounds. It is the typical appearance of a low birthweight, prematurely born child with poor chances. You can see the skin is very fragile. The baby has poor chest movements. It is not very active. It is suffering from hyaline membrane disease, the disease of premature babies. This disease is due to the immaturity of the lungs, the inability of them to expand appropriately.

[Slide No. 16.]

Mr. DORNAN. How about the limbs on that last baby? The legs and the arms, is that just a premature look or can they develop normally?

Dr. FINNEGAN. They will develop normally. Eventually, this baby went home at about 3 months of life. And at that time, he was very chubby and looked fine, but they don't look very fine initially simply because the baby is very sick and doesn't have very much movement and no muscle tone at all.

The hand of the nurse here shows you the size of this baby. This baby weighed 800 grams which is about 1½ pounds. This kind of baby

has a lot of problems in that the brain is not fully developed, the lungs are poorly developed, the mortality rate is relatively high, and the long-term chances for this child are not so good. Prevention of the birth of this kind of baby is essential.

[Slide No. 17.]

I talked about intrauterine growth retardation. There are lots of drugs that can cause this. I have starred the psychoactive ones, the ones we are most involved with such as amphetamines, barbiturates, cigarette smoking—and this includes not only nicotine smoking, but also marihuana smoking—heroin and methadone. I starred methadone twice simply because even though we are able to get babies bigger and healthier with methadone, they are still not as big as babies whose mothers have taken no drug during pregnancy. In babies born to mothers on methadone many of these mothers started on heroin in early pregnancy and, therefore, that may have had some early effect with later effects due to methadone.

[Slide No. 18.]

I will show you some figures later.

This is the typical appearance of the growth-retarded baby. You can see the wrinkled skin and very little subcutaneous tissue. He is being treated because he has a low sugar and also pneumonia.

[Slide No. 19.]

Another factor that must be considered is the extreme cost in taking care of any infant who is prematurely born. Those little babies I showed you stayed in the hospital for 3 months. Hospital costs are very high. The equipment which is necessary to take care of one of these babies is very expensive.

This particular instrument—I call it, the "hamburger warmer" because it really is just like that. You put the baby in the middle of there, and it is just like a radiant heater like they use in Ginos where they keep the food warm. But it is a very useful instrument for us as physicians to take care of a baby like this because the baby is easily exposed to us. We can resuscitate the baby easily and we can start intravenous therapy, because the baby is more accessible than he would be in an incubator.

The monitoring equipment is also quite expensive. This whole setup probably cost about $20,000 or more now.

[Slide No. 20.]

What about the chance of congenital malformations? There are lots of studies in the animal literature telling us what drugs can do to animals. One has to be careful when one extrapolates these data to the human not only because of species differences but because the human is not a pure subject in that one cannot take a group of human pregnant women and say, "Take this drug during pregnancy," and have a proper control group and say, "Don't take this drug," and see what the outcome is.

In animal studies, one can do that; in human studies one knows there are a host of environmental factors that one cannot control. There are reports that show that amphetamines may cause oral clefts and cardiovascular abnormalities, and LSD may cause amputation defects and ocular abnormalities.

There are also reports in the animal literature that say morphine may cause defects of the spine and of the brain, but, in fact, we have not seen this in human infants.

In the infants that we have seen and also those in a large series in Dr. Stryker's program of over 800 babies, the incidence of congenital malformations was 2 to 3½ percent. The incidence that we know of in the general population is similar to that. In Detroit, they did have more in their addicted population than they did in their controls. I think they just had a very healthy control population.

We also have seen similar numbers in that the incidence seems to be the same as in the general population so that we cannot say that heroin or methadone cause a specific congenital malformation.

[Slide No. 21.]

In regard to mortality, I think that one has to realize that we are dealing with a setup whereby mortality is quite increased. And if you will just look at the line where you see total deaths and the incidence of death under controls, you can see that the incidence is 2 percent. Even that is high because this control population is from the same socioeconomic and ethnic group that our addicted population is from. These are the people that did not have as much care as one would like to have given them and, therefore, the mortality is high.

The infant mortality rate in populations where there is a lot of prenatal care and good nutrition, is somewhere below 2 percent. In any event, if one looks at the total drug population, you can see it is twice as much—5 percent if one includes groups 1, 2, and 3.

Group 1 are heroin addicted mothers who had no care, who just walked in off the streets of Philadelphia into our hospital. The mortality rate was 6 percent. In contrast, group 3 are our program women, and in them it was 3 percent. Group 2 is a distressing group—8 percent mortality—because these are women who came late for methadone or who came early, and then were lost to treatment and then just came in and delivered. You can see that by providing methadone alone high mortality rates occur in infants. For successful rehabilitation one needs the methadone, but one needs the other care as well.

[Slide No. 22.]

This is the picture of the brain of the baby that I mentioned to you. I think you can appreciate the holes that are in the brain. Maybe you can't. You see holes in there, but they are the ventricles. Let me just point to the proper holes. These are holes in the brain that are in very vital parts of the brain. They are in the respiratory center. This baby was born to a mother who had a severe overdose in the last trimester of pregnancy. The baby was born at 1800 grams and only had a heartbeat. We could not resuscitate the baby. The neuropathologist explained to us why. This baby basically had had such a severe lack of oxygen during the maternal overdose that the respiratory center, which controls respirations, was completely filled with the cystic structures secondary to the death of brain tissue.

[Slide 23.]

Another problem that has loomed before us is the problem of crib death. It has been reported to be increased in smoking mothers and mothers who drink alcohol and in drug dependent mothers. Our own program, Dr. Stryker's program, and several others in New York have seen this increased incidence.

There seems to be a recurrent theme in that there is prenatal and postnatal growth deficiency seen in all of them. There are vascular changes that are seen in the placenta in these pregnancies. And also, we know that there are hypoxic episodes or lack of oxygen during pregnancy in all of these conditions.

In the case of nicotine there is a decreased oxygen-carrying capacity. In the case of narcotics and alcohol, there is a lack of oxygen due to the withdrawal and overdose that I previsouly mentioned.

The usual incidence of crib death in the general population is 2 to 3 per thousand. And in this population, it is 20 per thousand.

[Slide No. 24.]

Mr. DORNAN. Including methadone, Doctor?

Dr. FINNEGAN. That includes methadone, right. You can't separate the methadone cases from the heroin cases because most of the women are combined. They have had heroin early and frequently have methadone later. There also are cases in women who have been on methadone all through pregnancy.

The other issues that you must consider in trying to come up with what is the real etiology is the fact that these babies have had chronic fetal hypoxia. They have a greater chance of infection. And we still don't know about the effect of the abstinence syndrome in the baby, the withdrawal symptoms that we frequently have to treat.

[Slide No. 25.]

Last, what about this baby that goes through withdrawal symptoms? Here is an infant undergoing withdrawal. You see the baby is fully formed; he is a full-sized baby. He is perfectly healthy except that he has the typical symptoms of narcotic withdrawal.

[Slide No. 26.]

There are a host of drugs that can cause withdrawal. I have listed them here, some of them prescribed drugs, some of them illicit drugs.

In the last month, I took care of two babies whose mothers had hay fever. One of them was on Contac and the other one was on a drug called drixoral. These are antihistamine drugs, combination drugs, with some stimulant properties to them as well.

These babies went through predictable symptoms of withdrawal which I will mention in a minute.

As I said, all of these drugs, whether prescription or nonprescription, do cause typical symptoms usually in response to the effect on the central nervous system, but also the gastrointestinal system and the autonomic nervous system are involved.

[Slide No. 27.]

When do these occur? They occur anytime from birth to as late as 2 weeks of age. They can last anywhere from 6 days to 6 months. About 90 percent of our babies have some kind of symptoms. About 75 percent of these have been treated for anywhere from a few days to several months.

There are several things one has to remember when you are trying to evaluate whether a baby will have symptoms or not. We have to realize what drugs mother has taken. If mother has only taken one drug, the infant will have one withdrawal syndrome. If she has taken three, the baby can have three withdrawal syndromes.

The duration of her drug use is important; the amount of drugs she is using is important, and also the maturity and nutrition of the infant and whether the child is sick or well. I will give you an example of this.

In the child who is full size and healthy, the kidneys are going to be working well, the liver is going to be working well. So, therefore, you would expect that the drugs in the child will be excreted quite rapidly after the umbilical cord is cut. Therefore, this child may have an onset much sooner than one of those sick babies that I showed you whose kidneys and liver are not functioning very well. In these latter babies

it will be a long time before the drug is excreted, and therefore, symptoms will occur later.

[Slide No. 28.]

This is just a graph to show you the possibilities that exist in response to a withdrawal syndrome. The first, the orange one, is a mild, transient form which may occur in the low-dose heroin-addicted mother's infant. Heroin is short acting, therefore, it will come out very fast, and the baby may be over the symptoms more rapidly.

When you first look at this, you think, well, isn't that much better? Is it better to have a woman on heroin with brief neonatal withdrawal symptoms? In my opinion, it is not good, because this baby will more likely have the other problems of premature birth that I mentioned which have long-term morbidity and mortality associated with it.

The green one, delayed onset, is more typical with barbiturates because babies take a long time to excrete barbiturates and, therefore, the onset may be later.

The pink and yellow are the more common ones we see. These are typically seen today because we rarely see a woman using only one drug. They are usually using several and, therefore, we have several withdrawal syndromes.

The blue one is the most frustrating because you think you have treated the baby, the baby goes home, and the so-called subacute withdrawal occurs. The baby will be sick for several weeks or a month or so after that.

[Slide No. 29.]

The symptoms, as I said, have a variable onset, and the central nervous system symptoms usually start out by the baby just moving around in the crib a little too much. The baby will start to cry. The cry is protracted—it is shrill. The baby will start to have tremorous movements, and the movements are initially just fine tremors that are just little shakes and then they go onto flapping tremors. The baby may go into convulsions. The baby may initially have these tremors only when disturbed, but then may go onto have them when not disturbed. In other words, the baby may be lying peacefully in the crib, and with no provocation, will start to shake and have these tremorous movements. We know very little about the effect of convulsions on these babies. We need to study this more thoroughly because we are seeing an increased incidence of seizures in these babies.

[Slide No. 30.]

Mr. DORNAN. Dr. Finnegan, does this lend itself, obviously to child abuse with a mother with a nervous system under stress and a baby that is upset and screaming?

Dr. FINNEGAN. I am going to get to that. If the baby is responding in this fashion, the mother is not apt to be able to really get into the mothering. But I will mention it in a couple minutes.

[Slide No. 31.]

The gastrointestinal symptoms are extremely frustrating, especially to the neonatal nurse because what happens is that this baby will have difficulty feeding. And when it starts to feed, it frequently will regurgitate. Feeding is extremely difficult because although they have an exaggerated routing reflex, which is a normal reflex which all babies have, when you put the nipple into their mouth, they act as if they don't know what to do, because the sucking and swallowing reflexes are ineffectual and uncoordinated.

[Slide No. 32.]

The babies have the autonomic nervous system symptoms of sweating, mottling, nasal stuffiness, they move around so they excoriate their knees, toes, noses, and breathe rather rapidly. Increased respirations are problematic because the physician must ask, "what is going on here"? Is it just withdrawal, or is this baby ill with pneumonia because of meconium or infection because of maternal infection?

[Slide No. 33.]

This is just an excoriated baby.

[Slide No. 34.]

And I was going to say something about pentazocine. I will be very brief. This drug has become a very frequent drug of abuse in the Philadelphia area. I find these women are much more problematic because we cannot put them on methadone and, therefore, we lose them. They have multiple complications, and the babies are extremely growth retarded and have other problems.

[Slide No. 35.]

I have already mentioned about barbiturates.

[Slide No. 36.]

The use of tranquilizers has increased markedly. These particular numbers show you that major proportions of 200 million prescriptions were written for Valium. We find that there are typical symptoms that we see in the infant.

The infant may withdraw if the mother is dependent, and the withdrawal is a difficult one. It is very much like alcohol withdrawal in that these babies are more apt to have atypical movements. They arch their back; they have a lot of difficulty with feeding and are much more difficult to treat than the infants undergoing heroin withdrawal.

[Slide No. 37.]

Babies withdrawing from amphetamines will have an opposite response. They are lethargic, depressed, and have difficulty with feeding.

[Slide No. 38.]

This shows a case of a baby whose mother was on diazepam. And as you can see, the blood levels were done in this baby, and it took almost 3 weeks to get rid of the diazepam as well as the metabolite dimethyldiazepam during this period of time, the baby had low temperatures, hypotonia, and also decreased sucking ability.

[Slide No. 39.]

This is where I get to Mr. Dornan's question. This picture shows you exactly the way you and I would feel or we have felt and this mother feels because of this baby's reaction. It literally is, "What am I going to do next?"

The screaming, the high-pitched cry, the baby that doesn't feed, the baby who has loose stools, what am I going to do about this baby?

[Slide No. 40.]

This depicts what one mother may do because of not wanting to become attached to this baby who is so difficult. One of the things that these babies do when you hold them is that they push away from you. You feel as if they don't want you. And whenever you hold a baby, if it starts to do that—that frequently happens if you pick up your friend's baby at about 8 months of age when they have the stranger response, and they push away from you—you say, "The baby wants her mother." And suppose you are the mother, and the baby does this. The response from the mother is, "This baby doesn't want me."

"I took drugs, and the baby doesn't like me." And you have to explain to the mother that in fact this is not a psychological response that she is seeing; it is in fact a physiological response of the withdrawal and that it will get better.

The important aspect of this to prevent child abuse and neglect is to get these mothers into the nurseries which we do. They are allowed to visit from 8:30 in the morning until 11 o'clock at night. Many of them sit there most of the day. And when we finally get to the point where we detox the baby off of the treatment drug, the mother may stay all night with the baby in order to hold them, in order to nurse them, during the time which is most difficult when they are getting off their detoxicant drug.

[Slides Nos. 41, 42, and 43.]

In summary, the infant born to the heroin addicted mother, the mother who may have had no prenatal care, is certainly subject to premature birth. Psychoactive drug use during pregnancy will predispose the child to a withdrawal syndrome. Infection in the mother which is so frequent will predispose the child to septicemia and withdrawal. Chronic overdose, which is for the infant a lack of oxygen during intrauterine life, may predispose the child to a meconium aspiration pneumonia, to intrauterine growth retardation, and sudden infant death syndrome.

[Slide No. 44.]

This was in the Washington Post a few years ago and I will try to summarize this. What it basically said was that there is no chance for babies born to addicted mothers. They are probably going to be "a second generation of junkies." And there wasn't very much that one could do.

Having worked with these women and their children for 10 years, I can tell you that I don't have that answer yet. I don't know what they are going to be when they are 12 or 13. I know what they are at ages 1, 2, 3, 4, and 5.

Infants born to heroin-addicted mothers have been studied by Dr. Geraldine Wilson's program in Houston, Tex.—these babies do have poor growth, poor perceptual function and do score poorly on developmental tests.

But in the methadone-maintained woman's child—and again, I have to preface my comments with the fact that this is very difficult to do, it takes a lot of time, it takes too much money, and it is extremely frustrating to find these women on the street after 2, 3, 4, and 5 years after they have delivered a baby. It takes a lot of staff effort. It is dangerous, and sometimes, you can find only about 50 percent of them.

So somewhere out there, we are not sampling all of the babies, but of those that we have been able to sample, we have been very pleased. And, of course, we are pleased because we have been providing this treatment and have been concerned as to what short-term as well as long-term effects will be.

But these babies born to methadone-maintained women when followed and compared to an appropriate control group—and I stress appropriate control group of the same socioeconomic class and ethnic group—have developmental function comparable to the control group. They are somewhat smaller in growth. We don't know what that means. It has not apparently affected their neurological function or their developmental function.

I will end here so that I save some time for my colleagues. I will be happy to answer any questions about the kind of program that we have.

I think you have basically heard a lot from Dr. Brotman about the similar components in all of our programs which provide comprehensive care for these women.

Thank you.

Ms. COLLINS. Dr. Stryker, did those represent your slides as well?

Dr. STRYKER. No.

Ms. COLLINS. Why don't we, while we have the room dark, go into Dr. Stryker's slides now?

[Dr. Finnegan's prepared statement appears on p. 68.]

TESTIMONY OF JOAN STRYKER, M.D., DIRECTOR, HUTZEL HOSPITAL PROGRAM FOR DRUG DEPENDENT PREGNANT WOMEN, DETROIT, MICH.

Dr. STRYKER. I am very pleased to be able to share with you today our experiences over the past decade.

[Slide—Table I. The infants of drug-dependent mothers.]

Some of my slides will be similar to those of Dr. Finnegan—when they are, we will quickly pass through them.

Of the babies whose mothers are entered into our clinic, one-third of these babies are addicted at birth. Of the mothers who come to us and deliver with no prenatal care—"walk ins"—all of those babies are addicted at birth, approximately 10 percent of the delivered addicts are "walk ins."

When we realize that we are delivering about 250 babies a year to mothers who are abusing substances, we have the magnitude of the problem.

[Slide—Table II. Diagnosis of narcotic addiction.]

I think the most important thing to emphasize—I helped run the clinic at Hutzel, and we delivered 7,000 women a year—is finding the women who will not tell us that they are addicted. We have instituted a program to identify addicted women—all our residents are all involved with this. Of course, if the patient says that she is addicted, there is no problem.

But if she has not acknowledged addiction, then the physicians examining women in all areas of hospital care—emergency room, prenatal, in hospital, et cetera—should look for the signs of addiction, which is basically the physical signs, needle trackmarks, localized edema like the pictures Dr. Finnegan showed, subcutaneous abscesses. And if they are snorting, you may see the erythematous—the very red—nasal mucus membrane.

And, of course, if they have central nervous system evidence of being on drugs and if they have a past obstetrical history of small babies, SGA—small for gestational age—increased fetal activity or, as Dr. Finnegan said, premature rupture of membranes, this must be noted.

Every woman who comes to our clinic, whether she is 2 years old or 88 years old has a urine screen for drugs. And you would be surprised how many patients we have picked up including young babies.

[Slide—Table II–A. Areas of special concern in the physical examination of pregnant women.]

Then, of course, you are going to look for things such as dermatological, dental, ENT, especially the rhinitis, respiratory. Many of these patients, when you listen to their lungs have rales. They don't really have asthma, the rales are due to the material the heroin is cut with and the introduction of this material intravenously, and it is caught into the lung parenchyma. That is the etiology of these problems and also cardiovascular problems.

[Slide—Table II–B. Areas of special concern in the physical examination of pregnant women.]

If they have hepatomeglia, this may indicate hepatitis. And, of course, the ladies that we see, have a great number of vaginitis and veneral diseases.

Those words are all large, but condyloma acuminatum is another word for warts, trichomonas which is a frequent infection caused by a one-celled animal, herpes vaginitis is a new disease due to virus gonorrhea, and various types of pelvic inflammation, salpingitis, abcesses of the fallopian tube.

And, of course, you find out if by any chance, that they are pregnant and where the pregnancy may be.

Dr. Finnegan also alluded to the evidences of tracks in the breasts because th ladies will use the breast veins for running. And she showed some excellent pictures of the serious problems of pitting edema and distortion of landmarks due to abscesses and Brawny edema.

[Slide—Table II-C. Laboratory diagnostic evaluations.]

I am going to quickly go through this, but the workup these patients need is very extensive and expensive—they all need a fair amount of laboratory work. And it does not come cheaply.

[Slide—Need to individualize treatment program.]

We have found when the patients come in, every patient must be individualized, and you have to go into their drug history plus their methadone dosage and how far pregnant they are—gestation.

We divide our ladies into three groups—under 5 months, over 5 months, and the walk-ins.

[Slide—The pregnant addict is two people—herself and the fetus.]

And when you are realizing you are working with a lady who is pregnant, you must acknowledge you are dealing with two people, the mother and the fetus.

[Slide—Aim.]

To produce nonaddicted healthy babies, we must have, of course, a healthy mother and correction of her physical problems. We would like to detox them if we can. And the "possible" is the big word. And we try to convince them to discontinue all street drugs.

[Slide—Table II-D. Amount of daily methadone that does not produce addicted infants.]

Dr. Chavez who is our neonatologist, like Dr. Finnegan, has worked out this statement. We have a lot of data to back it up.

If we can bring the mother to less than 20 milligrams of methadone the last 6 to 8 weeks of pregnancy, we may deliver a baby who will not be addicted. That doesn't mean that the baby doesn't have some of the problems of neonatal addiction because he had intrauterine addiction, but in general our low dose methadone babies have little or no neonatal addiction.

[Slide—Formula for determining methadone dosage.]

We utilize the following formula as a help in deciding what kind of dosage a woman should receive when she first comes to the clinic. We take half the daily dollar amount the woman is spending on drugs, and then bring into that a factor which deals with the length of time this patient has been on drugs. The longer on drugs, the more methadone she will need. If she has only been on it for a few months, then she will need much less of the drug than the person who has been on it for 10 years.

$$\frac{\$ \text{ per day}}{2} - 2(10 \text{ years}) = \text{methadone in mgs./day.}$$

[Slide.]

If—and I just put in a problem—she comes in with a $60-per-day habit for 5 years, and this is about average for our patients, then we would start her on approximately 20 milligrams on methadone. But there is a need to titrate this dosage.

[Slide—Table II–E.]

Titration is accomplished by a careful monitoring of the patient. A long list of withdrawal symptoms are checked every 3 days, realizing that it takes about 36 to 48 hours for the methadone to become effective. Titration may require the methadone dosage to go up or down.

[Slide—Table II–F. Overdose.]

Of course, you want to look for overdose, too.

[Slide—The L.P.N. dispensing methadone.]

The person who is critical in the methadone clinic is the person who dispenses the daily methadone. This is our nurse. She is an L.P.N. who has her drug license. And she is the one staff member who makes daily contact with the patient. She is the one who gives the patient her withdrawal slip and looks it over on all new patients and makes a decision if the patient needs a dosage change.

[Slide no tranquilizers are prescribed.]

If the patient is having problems, she is then referred to the treatment ward. And on our treatment ward, there is a psychiatrist, myself an M.D., two social workers, and occasionally another doctor. We have learned that some of the clinics in the Detroit area are giving our patients diazepam or Valium. We are absolutely sure because of the difficulties with these babies. Dr. Finnegan referred to them as Valium babies.

[Slide.]

Detoxification must be gradual. You heard the two ladies speak earlier that when you are pregnant, detoxing is a very difficult job because the baby is also detoxed. The need for methadone sometimes is increased with pregnancy rather than decreased.

[Slide—Symptoms of "acting out."]

And the patients can be anything but fun to work with. They can really mess up your day. You will have an appointment to see them and they never get there. They continue to use illicit drugs. They may be intoxicated with alcohol. Fifty-eight percent of our girls drink. They may engage in illicit activity of all sorts of things, including fencing TV sets in your parking lot.

They may be very irritable and create problems within the staff. And they may be very impulsive. I can't walk through the clinic

without one of them saying, "Oh, I want to talk to you right now, Dr. Stryker." They never thought about that until they saw me. It is a very demanding, provocative behavior.

Regardless of this kind of behavior with these patients—and not all of them do, but some of them do—you must remember that you are dealing with a sick woman.

[Slide—Staff guidelines.]

You wouldn't react to a diabetic who is in hypoglycemia, you wouldn't react to a myocardial infarct patient who is absolutely screaming up the walls because he is afraid he is going to die. You have to avoid moral judgment. You must not increase their low self-esteem. You must be extremely supportive to these patients.

[Slide—Table III.]

It takes a large team for these women, both Dr. Brotman and Dr. Finnegan confirmed this. Dr. Finnegan also went through all of these medical problems frequently seen in these patients.

The problem that I would like to underline is that of underweight, 48 percent are underweight, by 10 percent of their expected weight. Also 54 percent of our patients are anemic. Their nutrition is deficient, and they are in nutritional bankruptcy.

[Slide—Table III-A. Serious medical complications.]

These are serious medical complications, and we have had deaths from all four of these complications. There was a problem with a patient last week who was experiencing constipation. I am sure you all know if you have diarrhea, paregoric, which is a very good drug, is prescribed.

If the patients are on heroin, they become very constipated and pregnancy doesn't help. And the fact that you can have a death from rupture of the bowel due to constipation engorgement due to fecal matter and rupture of the bowel, consequently peritonitis. It is a very sad death.

[Slide—Table III-B. Obstetrical complications.]

Obstetrical complications, Dr. Finnegan has gone over them.

The PROM, I think, is the most important one. Premature rupture of membranes which, of course, produces premie babies. This is due to two things.

One is infection, most frequently, genital infection.

And second, withdrawal in the baby, who becomes very active and kicks in the uterus and maybe actually putting his hand or foot through the membranes.

[Slide—Table III-C. Abstinence.]

The fetal abstinence syndrome, Dr. Finnegan has gone over this, there may be early abortion, premature rupture of membrane, the meconium aspiration which is a very serious problem in our clinic, and, of course, excessive fetal activity.

[Slide—Intrauterine asphyxia.]

Due to intrauterine asphyxia, there is an increase in cesarean sections, low Apgar scores, 10 percent of our babies have aspiration pneumonia and death.

A technique which we have devised at Hutzel is weekly fetal activity tests. We are testing our ladies every week to ascertain how the baby is doing in utero. Once the baby becomes viable, from 28 weeks plus. If the fetal activities test reveals that the baby is really having trouble with oxygenation, intrauterine asphyxia, the fetal heart rate depicts

the baby's lack of oxygenation. An elective cesarean section may be performed because we feel the baby is better out than in.

[Slide—Neonatal and infant morbidity and mortality.]

This represents some of our problems, about 23 percent of our babies weigh less than 2500 grams or are "premies." We have 2.2 percent neonatal deaths, and our reported crib deaths or sudden infant death syndrome is much higher than our own norm at Hutzel Hospital obstetrical pregnancy group, or for Detroit.

[Slide—Baby with congenital anomaly.]

This is a baby with congenital anomalies. Dr. Finnegan talked about this. There is a 5-percent higher congenital anomalies rate among these infants of drug dependant mothers than from the Hutzel Hospital nursery. Hutzel Hospital delivers high risk babies for all the Detroit area and we are the medical school center's obstetrical unit. Thus the number of congenital anomalies are higher here than for Detroit. The infants of drug dependant mothers have a 5-percent higher rate.

This baby has a hard palate defect, a limb bud defect of his right arm, an umbilical hernia and he has a hypospadias of his penis.

The congenital anomalies represent all systems. Some of them are lethal, and some of them are minimal.

[Slide—List of drugs associated with withdrawal manifestations.]

We do have a number of drugs as Dr. Finnegan said, in our own patients, only 10 percent of them are on heroin and/or methadone. Ninety percent of them are on two or more of the drugs listed, the degree varies with each patient. As for alcohol, we have 58 percent of the patients who are drinking.

As far as codeine is concerned, only 3 percent are using codeine regularly, Darvon, Librium, and Placidyl are also used. More frequently we have had two PCP babies and four Talwin babies. So far, the babies have not been too sick. They, too, have to be treated, but differently. The mothers also have to be treated differently during the pregnancy if on polydrugs.

[Slide—Neonatal abstinence syndrome.]

This is the report that Dr. Finnegan talked about. How to decide how severely addicted, the neonatal abstinence syndrome of the infant is. A score which our neonatologist, Dr. Chavez, Dr. Finnegan and Dr. Green have worked on together. By adding up the score, a diagnosis regarding the baby's addiction can be made.

[Side—Continuation of neonatal abstinence syndrome.]

This is just more of the symptoms, the irritability, twitching, tachypnea, et cetera.

[Slide—Brazelton test.]

We also do Brazelton's on all of our babies. This test notes how the baby reacts to stimuli, and this is a noise—bell ringing.

[Slide—Brazelton test.]

This is testing the baby with a piece of cold ice.

[Slide—Brazelton test.]

Moro reflex and how they are straightening their legs.

[Slide—Brazelton test.]

Walking, this baby is addicted, the mother was on both heroin, diazepam, and methadone and delivered at 20 milligrams of methadone a day. The baby had moderate abstinence syndrome.

[Slide—Dr. Cheney examining a child of a drug-dependent mother.]

We follow our babies, and with the use of NIDA funds, we now have 554 babies that have been followed for a variety of time. We have 155 babies old enough to enter into the school system. They have all had repeated physical exams.

[Slide—Dr. Cheney examining a child of a drug-dependent mother.]

Behavioral exams.

[Slide—Child being examined.]

This is just to note the weight and growth and so forth. She looks like a very healthy little child. Her mother was one of our very sick mothers.

[Slide—Child being examined.]

We are watching them walk a straight line, their gait, and so forth.

[Slide—Table V. Growth and psychological characteristics of narcotics-addicted infants.]

This is a very simplified chart. The babies who are addicted are not as alert as the nonaddicted babies. The babies who are addicted show rigidity, irritability and tremulousness for the first week, second week, third week, and through the first month and into their sixth month of life. The baby's weight is less in the addicted group and continues to be less to their sixth month. But 6 months, they have usually caught up with the nonaddicted babies.

[Slide—Table VI. Characteristics of narcotics-addicted infants to 1 year.]

Bayley tests were performed on these babies at 4 months, 3 months, 6 months, 9 months, and 1 year. Basically the addicted baby has less motor ability than the nonaddicted and we also observed they are less mature psychologically than the nonaddicted baby at 1 year of age.

[Slide—Youngsters with an addicted mother.]

This is an addicted mother. Two of these youngsters are hers and the third one is another addicted baby. We observe these babies, by remote TV, in a playroom to see how they interact with each other and with their mother.

The control mothers also are observed. The observations are placed on videotape and then analyzed for interaction, how the mother responds, how irritable the baby is, how active the baby is, et cetera.

[Slide—Behavioral scientist monitoring TV.]

And this shows our behavioral scientist monitoring the TV screen.

[Slide—Mother's behavior observations and environment measures.]

We have found that there is really very little difference between the drug-exposed mother and the control mother. They treat their babies just about the same. They have a good response. They initiate interaction, and their reprimands are a little more frequent than that of the nonaddicted mother.

[Slide—Table VII. Child's waiting room behavior.]

They also know that we observe the babies. The preschoolers talk with each other. The only finding that has been observed is that the drug-exposed baby really wanders around the room and crosses many more squares than the comparison group.

[Slide—Table VIII. Home observation.]

One of the considerations is home environment. So a scheme was devised using two behavioral scientists: one who knew the home; one who went in blind. They were both trained. We had a long questionnaire and a list of observations. It was found that the drug-exposed home had less objects and experiences of doing things than the comparison; that the maturity was about the same, the physical and

language was a little less than in the comparison group; that the drug-exposed mother was less restrictive and not as punitive, not as disciplining of the child as the comparison group.

We also looked at pride, affection, and thoughtfulness, and thought perhaps that the drug-addicted mother showed a little less affection. The masculine stimulation was the same. And the mother of the drug-exposed baby did encourage independence. But when this study was subjected to analysis, there was really not a great amount of difference. In conclusion, basically there was not too much difference between these two groups of homes.

That took us 2 years to do.

We also do McCarthy tests starting at about 3 years of age, every 6 months, and these tests are continuing. This is a series of walking, talking, coping, and neuromuscular activities.

[Slide—Little girl following observer's example.]

This little girl is piling blocks one on another as the observer has done.

[Slide—Table IX. McCarthy scales.]

We have found that the general cognitive, the verbal and perceptual abilities of the drug-exposed child is about equal with the comparison child. The difference comes in the memory. Our drug-exposed babies have a little less memory ability, and their motor activity is less. And they are not able to do things well in neuromuscular control.

[Slide—Discriminating test situations.]

We also noticed—and the last two are the most important—they have more irrelevant minor movement. The child of a drug-dependent mother will jerk, jump on the table or throw off the blocks. They are much more immature in their interaction.

We have a grant proposal being considered in which we plan to watch 155 of these youngsters in the Detroit school system. The Detroit school system has been very helpful and very interested in our proposal. They are interested in our proposal because 10 percent—somebody's formula—of the babies in the school system are infants of drug-abusing mothers or mothers who abused substances. If these children really do show this irritableness, this irrelevant minor movement, this immaturity, how are they going to cope in school? Are they going to be able to withstand their structured classroom? How are they going to interact with another adult-type person such as a teacher and with their peer groups?

No one knows this. Hopefully, we will find this out in the next 2 years.

[Slide—Table X. Psychological care.]

It takes a lot to care for these patients as Dr. Brotman said. It also takes a lot of money, a lot of energy and a lot of time.

[Slide Table X–A. Changing patients lifestyle.]

And the most important thing is changing the patient's lifestyle through many areas—education as Drs. Finnegan and Brotman said, rehabilitation, involvement of the family, and developing parental skills. And I can now say that this is extremely important for our babies. We have found if the mothers come to the parenting classes, they do much, much better.

[Slide—Early enrollment—Before fifth month.]

And I must put in my own word about contraception because I am an obstetrician, and I have been in charge of Detroit's Planned Parenthood Clinic for many years before I started this project. The method

of choice is DPMA—depo-provera—for our ladies, it is easily accepted, more so than any other family planning method. It has been an excellent contraceptive.

The British Commonwealth and Canada use DPMA. It is used in Central America and India, but we are no longer allowed to use it in the United States. I won't go into the reasons for this ruling. It is a safe, sure contraceptive. Since we have not been able to use it for the last 2 years, we have had a lot of repeaters because the drug abuser is not a good pilltaker. Doctors frequently may have good reasons for not prescribing the pills, such as thrombophlebitis. When we used IUD's, there was a high pullout rate due to pelvic infection and abscesses. So that now, I will not allow IUD's to be inserted into our postpattern drug abuser. I have a blanket order, no IUD's in a patient who uses drugs because of the danger of pelvic infection.

[Slide—Table XI. Pregnant addicts.]

The conclusions are that if pregnant addicts can come into our clinic and come in before the fifth month of pregnancy and follow the dictates of the clinics, 90 percent of the babies born are over 5½ pounds and healthy. And 80 percent of our babies are born nonaddicted. These mothers usually are the ones then who we can follow through, who continue on the program and who are "good mothers".

I was asked also what we need. We need a lot more research into other drugs such as LAAM, Naltrexone. We need a lot more research in what these children are going to do in their future and how we can assist the community to help educate and train these children if, indeed, they continue to exhibit the behavioral problems that are evident at the present time.

Thank you.

Ms. COLLINS. Thank you. That was very revealing.

[Dr. Stryker's prepared statement appears on p. 84.]

Ms. COLLINS. We have been joined by Congresswoman Lindy Boggs who is also a member of this committee. Unfortunately, and I say unfortunately for me because I find it is one of our more interesting task force meetings, but I am going to pass the gavel at this time to the other cochairman of our task force, Congressman Dornan, because I have a commitment that I just absolutely have to keep.

I am sorry I won't be here for the rest of your testimony, but I am certainly going to read the record when it comes.

Mr. DORNAN. Thank you.

What we will do is, if you ladies don't mind, take the testimony of Ms. Portis, and then we will open it up to questions from all three of you.

Ms. Portis, thank you for joining us here today. It is an honor for us to have you, and it is a pleasure to have you.

TESTIMONY OF KATTIE PORTIS, DIRECTOR, W.O.M.E.N., INC., DORCHESTER, MASS.

Ms. PORTIS. Thank you.

My name is Kattie Portis. And I am from Massachusetts. My program is a community-based program. We are not housed in a hospital. We are housed in the community. And the majority of the women that we see use street drugs. I am going to try to talk a little bit about that.

The extensive use of licit and illicit drugs produces a staggering array of negative consequences for the individual substance abuser. But when the abuser is a pregnant woman, these noxious effects are multiplied and transferred to the unborn child. As the director of Women, Inc., I have seen these problems on a daily basis for the past 6 years, and I am grateful to be able to share my firsthand knowledge and ideas with you.

Women, Inc., is a private, nonprofit, community organization providing residential treatment for women experiencing difficulties with drug and alcohol abuse. It is the only facility in the Commonwealth of Massachusetts that can accommodate both the client needing treatment and her children.

Servicing the needs of these women and their children form the core of the program for the agency has been primarily concerned with the assessment, fulfillment, and documentation of these needs since 1974. All of Women, Inc.'s service centers are located within one of the most economically deprived areas of Boston. And this fact is integral to the successful functioning of the program.

The major objectives of the program are not only to provide needed assistance to a group traditionally excluded from conventional services; economically deprived, third-world women and their families; but to also be inexorably linked to, and fully tuned into, the life experiences and needs of this service group.

By definition, Women, Inc., is constantly concerned with the problems of the drug-addicted, pregnant woman. We are also confronted with the children. In utero and after birth, the physical, emotional, and social difficulties of these children are immense. The program has attempted to help both the mothers and children who need services.

Women, Inc., has always had its roots in the community, and was created in response to community need through a research demonstration grant from the National Institute on Drug Abuse to explore alternative treatment modalities for women.

From its inception, the majority of Women, Inc., staff have been from the community, many ex-addicts and recovered alcoholics, and primarily female. The premise is that those who are closest to the problem and those who have experienced these problems first hand will often be best able to emphasize, provide needed services, and serve as realistic role models. Again, this interlocking of staff and client living experiences allows the program to be open and responsive to the ever-changing needs of the clients.

This close bonding with the community has created and is constantly recreating the philosophies that underlie all aspects of the Women, Inc., experience. It is accepted that for these women, substance abuse is only a symptom of a complex system of social impediments. And for these children, the substance-abusing mother serves to exacerbate these problems.

The woman is faced with the problems of poverty, relative deprivation, inadequate educational and vocational opportunities, and responsibility of childrearing, the always present racial and sexual discrimination and the lack of adequate, responsive services.

The child is born into this world plus often is experiencing the physical and emotional side effects of being born addicted to drugs. In some cases, these effects are temporary; too often, they are permanent.

It is further accepted that this array of negative social situations and resources will often produce a very stressful living experience for both the woman and the child. By definition, neither have the coping abilities with which to adequately deal with these circumstances. This, in turn, will often lead to feelings of helplessness, depression, anxiety and very low self-esteem on the part of the woman, and a good deal of negative behaviors and feelings on the part of the child.

These feelings and behaviors, in conjunction with the mother's lack of skills and the absence of social support systems, almost always accompany the living situation among Women, Inc., clients. It therefore follows that in order to truly serve these families, not only the mother's addiction itself, but its underlying causes and consequences must be dealt with.

Therefore, Women, Inc., has developed programs that provide a balance of services to both mother and child. The woman's treatment combines direct drug treatment and skill building with activities that inspire self-awareness and self-esteem, a sense of dignity, and an understanding of the social, cultural and political factors affecting everyday life.

The treatment plan is built around the special needs of women, and encourages independence and confidence through the acquisition of strong survival skills and the development of ongoing support systems. Overall program activities emphasize the learning of self-sufficiency skills—particularly educational, vocational, and parenting—and the exploration of all available options so that a woman may learn to effectively deal with living a drug-free existence while also experiencing personal satisfaction and growth.

Intervention methods include group and individual counseling, advocacy and referrals in a residential, day, or outreach program. This direct treatment is augmented by a comprehensive parenting and childcare program, educational, and vocational services—including GED referrals, the development of marketable skills, counseling, and placement—consciousness raising sessions, community involvement, along with skill-building activities and seminars designed to increase self-sufficiency—budgeting, shopping, cooking, nutrition, et cetera—and understanding of addiction and substance abuse.

The needs of the children are addressed through a childcare program designed to be responsive to their special problems and a parenting program to educate their mothers to enable the women to be the mothers that they wish to be and that their children need them to be.

The Women, Inc., Parenting and Childcare Center seeks to meet these needs through a triple focus plan: A specialized child development program for the child, counseling and support for the mother and facilitation of the mother-child relationship through a variety of modes.

The childcare program is a comprehensive childcare and child development program. The child development program is comprised of five major curriculum areas: Language arts, science, math, image building, and physical development—each area geared to the individual needs of each child.

The staff is made up of highly trained and licensed professionals with years of experience with children and a high level of sensitivity to the special needs of these children and their mothers. Concern is centered around correcting any problems that might be the result of

having been born addicted and/or living with a substance-abusing mother.

The center is open from 8 a.m. to 5 p.m., Monday through Friday, and provides two meals and two snacks for children ranging in age from 15 months to 6 years.

The parenting program offers a wide range of services from entire parenting courses for the addicted or nonaddicted parent to individual and group counseling. Seminars are available on a wide array of parenting concerns—child development, discipline, pregnancy, social services, et cetera—and are presented by Women, Inc., staff members, community members with expertise in the fields, as well as professionals in the area. These seminars are augmented by group and individuals counseling, workshops and informal rap sessions, relevant group outings, activities with the children and work in the childcare center.

The overall program goal is to inform the decisions that women make about parenting through education and discussion. The general context is to understand parenthood and the ways that parenting issues are similar/the same for all parents, and the ways in which addiction complicates these issues.

The real uniqueness of the programs come in their interlocking goals and activities. The parenting program is an integral portion of the childcare program, for no child may be enrolled unless the parent participates in the parenting activities.

The childcare program is also integral to the parenting program for many activities are coordinated between the two, and the parent is highly involved with input and feedback concerning her child's daily activities.

Program outcomes have been very encouraging. Many women have started new lives, drug-free, self-sufficient lives, providing for themselves and their children in a positive fashion. Obviously, the children have benefited tremendously through their mother's rehabilitation, but they have also improved on their own level through Women, Inc.'s, specialized childcare program.

Now that I have spoken of Women, Inc.'s, program, let us turn our attention to the issue of addiction and pregnancy. What exactly are the effects upon the children? How do the mothers most commonly react to being drug addicted or pregnant? How do the fathers fit in? In what ways might these problems be alleviated?

Attention will now be turned to the child. Given a drug-addicted mother, what are her/his chances? It is a known fact that the child's chances of being born alive are reduced for the incidence of spontaneous abortion and stillbirths are much higher among substance-abusing women.

And on a general level after birth, just the experience of withdrawal may be lethal, and the occurrence of infant crib death has been estimated to be 17 times as high among these babies.

There also exist a number of negative byproducts as a result of the mother's lifestyle while pregnant. Malnutrition and an increased propensity for the woman to contract a venereal disease are just two hazards which can produce premature delivery and potential birth defects.

Research has shown that the mother's addiction to different drugs will have different effects upon the neonate. Tranquilizers, barbiturates, methadone, and heroin all enter the blood system of the baby as

they are present in the mother. The placental barrier is no barrier for drugs as most drugs, including alcohol, flow easily from mother to child.

The child born to a chronic amphetamine addict will not be born addicted to the drug, but will show effects of a malnutritioned mother and usually a large amount of calcium depletion. The child will tend to be small and weak boned. But the child born to a heroin, methadone, alcohol, or barbiturate addict will quite often be born addicted to that drug.

The child will experience the same withdrawal smptoms that an adult would who was confronted with ceasing the use of the addictive drug. And if the child does not receive quality medical care immediately, the child will probably die.

The child born addicted to heroin can display withdrawal symptoms varying from mild to severe. This problem is treated with drugs, usually Phenobarbital or Thorazine, but these drugs can only ease some of the baby's pain. The children are in real pain and tend to cry constantly.

They have no tolerance for food and often alternate between vomiting and diarrhea. They can't sleep. They are very small. They shake and have the tendency to go into convulsions. They sweat. They run high fevers. They sneeze extensively. A child with mild symptomotology may need drugs for only a few days while a child who is severely addicted may need to be maintained for up to a month.

There is much controversy over whether it is better for a child to be born addicted to heroin versus methadone. This is not an argument I wish to take sides on as the research results are conflicting. Let it suffice to note that while the onset may be later with methadone, the symptomatology is very similar, and both are extremely unhealthy for the child.

Alcohol is another drug that has horrendous effects upon the fetus. Fetal alcohol syndrome is the name of the disease that the child of an alcoholic mother may be born with. This disease is characterized by small size, including small brain size which has permanent effects, mental retardation, physical deformities, often facila, tumors, heart defects, hyperactivity, and delayed physical abilities. FAS can also display a continuum of symptomatology with the most symptoms usually occurring in those children whose mothers drank the most.

The evidence is not in on the long-term effects of being born addicted. It seems that some children develop behavior problems around the age of three; some children show slow developmental growth; some reduced IQ; while many children appear to grow and develop normally once they are placed within a stable living situation.

What of the mother? Is she aware of the potential harm she is doing her unborn child? Does she seek out treatment for herself and medical help for her baby? The unfortunate answer to these questions is usually "No."

First, most women are ignorant of the noxious effects of drug use on a fetus.

And second, women who are drug addicts are even less likely to have this information. Drug addicts do not read newspapers nor news magazines. And if they watch television, it is usually in the middle of the night. Most have not had very extensive formal education and have a large amount of distrust for "experts" and medical personnel.

In other words, they do not have the information and their access to getting the information is extremely limited. Therefore, they often continue abusing drugs during their pregnancy and do not realize the harm they are doing their child until it is too late.

In the same vein, these women do not often seek out treatment when they are pregnant. The pregnancy often puts additional pressure upon them and complicates their life to such an extent that their drug use may increase. But there is a larger reason for their resistance to services at this crucial time.

They are afraid that the child will be taken from them. This is a real fear. In Massachusetts, there is a law that states that an addicted mother is an abusive mother and should have her child placed in protective custody.

While these women may be drug addicts, they also are motners who love their children and don't want to be separated from them. Therefore, they often will not seek any type of help and continue to live a lifestyle that increasingly jeopardizes the child's well-being. During the past 6 years, Women, Inc., has served hundreds of women and only 6 babies have been born to women receiving treatment.

The differences in the history of a pregnant woman who seeks treatment versus one who does not are immense. For the child of the woman who chooses to remain on the street, the prognosis is relatively poor. The woman will continue to abuse drugs and increase her baby's chance of being addicted.

The woman will most likely use other substances such as cigarettes or caffeine which have been found to be harmful to the neonate. She will probably use other harmful drugs besides her primary drug of abuse such as alcohol, barbiturates, et cetera. She will probably eat poorly. She will not receive proper, if any, prenatal care. She will often expose herself and her unborn child to violent situations.

The picture is not a pretty one. It has been noted that a woman's nutritional, medical, social and psychological situation will affect her child. All four of these areas can only produce negative effects for the unborn child of a street addict.

The pregnant addict who does seek treatment is in a far superior position. To encourage a pregnant woman to be drugfree is best, but even being maintained on methadone—methadone causes extreme withdrawal symptoms in the newborn child—allows for medical, nutritional and social support to be present.

A pregnant woman who comes to Women, Inc., will cease heroin use, thereby decreasing the potential of her child being born addicted. She will cease all other drug use—alcohol, barbiturates, et cetera. She will receive extensive medical care. She will eat and sleep properly. She will receive the counseling and treatment she needs. She will have social support and enhanced self-regard.

All of these factors will increase her chances of having a healthy baby. And if the baby is born addicted, she and the child will be stronger and better able to deal with the withdrawal situation.

The absent person in the drama is the father. Unfortunately, he usually is absent. And if he is present, his influence is often negative. All research to date has shown that the addiction of the father has no direct effect upon the fetus. The fetus is affected only by the lifestyle of the mother while it is in utero.

While this does lay a large burden upon the woman, the father's potential for good or ill is present. He could be supportive and encourage her to seek treatment and take care of herself or he could be destructive and encourage her to do drugs with him. In the vast majority of cases, the father is a negative or negligible influence.

Where does this leave us? How can we help to reduce the problems of drug-abusing, pregnant women and children being born addicted? My recommendations are three-fold: Education, support, and specialized services.

First, education is an absolute necessity. Until a woman knows that she is doing her child harm, she will take no steps to change the situation. And education must come through a means that she has access to. It must come from the street.

The old tradition of out-reach must be re-enacted. There must be people of the street, on the street, giving out the information. Ex-addicts, community-born social workers, other people to whom a street person can relate must be available with good, true information to let these women know the dangers and offer them solutions.

Twenty-four hour hot lines to provide this information are imperative. Media blitzs at the time and through a means likely to reach an addict are necessary to dispense this information: A 3 a.m. talk show on the all-night TV station or a special spot on the local jazz or blues radio station.

Drug education programs run by community drug specialists are needed in the public schools. Good programs taught by ex-addicts, given at an early age so that even if a woman drops out of school young, she has received this information.

After education, responsive and appropriate services are absolutely necessary. Protected, dependable, community-based programing that can provide the type of care and treatment these women and children need. Services located in the areas of need, staffed by people that a terrified, pregnant addict can begin to trust. Services that will provide support and help, not condemnation and punishment.

It is imperative that funding be provided to support programs that can help reduce this problem, programs such as Women, Inc., where a woman can come and receive the help she needs, a place where she can go to reduce the chance that her baby will be harmed, and a place that will continue to support her and her child after its birth.

Thank you.

[Ms. Portis' prepared statement appears on p. 96.]

Mrs. BOGGS. Mr. Chairman, may I take this moment to thank you so much, Ms. Portis, and all of you who have participated. It is unfortunate when we have such expert testimony and such interested persons who have had so much experience in the field at so many levels that those of us who sit on the committee have such dreadful programs today.

And I feel very unfortunate for myself as well as for the women whom I represent that I am going to have to leave this program. It may make you feel better that I take some of this information with me to a meeting on domestic violence problems.

So I really hate to leave you now, but I do thank you so much.

And I thank you, Mr. Chairman, for allowing me to participate.

Mr. DORNAN. Thank you, Mrs. Boggs.

Would the two doctors join our panel? And while you are settling in, if I could ask Ms. Portis one question about your closing remarks about the fathers, the spouses, of these pregnant women or their boyfriends. What efforts have you made to try and reach them with any kind of services? And isn't it true that if they are an addict that eventually they will talk the mother back into the drug use, boyfriend or husband?

Ms. PORTIS. That's very true. What we try to do, the minute that we have contact with the woman is find out who the significant person in her life is and if they are going to be a part of our treatment and if it is her wish. Then, we contact that person immediately and sit down and talk to them and let them know what we are about and also offer them a referral.

We are connected with all the other programs in the community. And sometimes, the guy will go into a program. Other times, he goes to work to get the woman out of the program.

Mr. DORNAN. Fifty-fifty?

Ms. PORTIS. I'd say 50–50.

Mr. DORNAN. That might be optimistic as an appraisal.

Ms. PORTIS. Yes; very.

Mr. DORNAN. Do you find that you get help from grandparents, the mother and father of the mother?

Ms. PORTIS. That really depends. Sometimes by the time we get to the woman, the family is burned out; they don't want anything to do with her. We might run into a situation where a grandparent has decided, "I am taking this kid, and I don't want to deal with you ever again."

So our work is to pull those pieces back together. And after we get through, a lot of that hostility and a lot of the uncertainty—that is very possible in some cases.

Mr. DORNAN. But when the State authorities are involved, they generally will be supportive for the sake of the child, of the grandparents?

Ms. PORTIS. Not necessarily. It is very hard to live with an addict or alcoholic. And people usually don't know what to do. So after they have tried all the loving and all the other stuff, they become very angry and withdraw from that person. And I found that to be more true with women than with men.

Mr. DORNAN. All right, if I could ask all three of the members of our panel, starting with you, Dr. Finnegan since you testified first, where do you think the Federal Government can get more involved with education programs, research, treatment?

Dr. FINNEGAN. First of all, I think the testimony of all the individuals here today has shown you that there is a tremendous problem out there that is being dealt with in a very small way. We are literally hitting the tip of the iceberg in those few cities where programs exist.

I certainly can speak for myself and perhaps a little for the others. It is an ongoing fight in order to provide the funding for this. I began my program as a research program and sort of "snuck under the wire" in order to provide services when, in fact, I was doing research.

When the initial research was finished, I was able to get funded by the demonstration programs, and I certainly have demonstrated that this program works.

Where do I go next? The problem is that a great deal of funds are necessary to provide this kind of treatment. We have programs such as maternal and infant care projects which care for high risk pregnancies. But they don't want to care for addicted women. It is too difficult to care for them. Therefore, when our women come in, they cannot join the maternal and infant care program. Yet, here, we have a group of women who represent the most high risk group of pregnant women in our country, and their infants who represent a very difficult group of babies to handle.

In our nursery, for example, where there are 24 intensive care beds, there are days and weeks where half of those beds are filled with infants undergoing withdrawal or problems secondary to drug use in the mother.

Mr. DORNAN. Before I was a Congressman, I participated in telethons and all sorts of charitable programs for spina bifida babies and all sorts of prenatal problems and postnatal problems. And I would imagine that this one is such a growing problem that it already represents in numbers more agony than some of these other programs that have high visibility in the medical world; is that true?

Dr. FINNEGAN. That's correct, yes.

Mr. DORNAN. Dr. Stryker, could you comment on where we might help, the Federal Government programs, research, treatment?

Dr. STRYKER. First of all, I think that to assist communities to identify that mothers are abusing substances. I go out and give talks at the medical level, but I think it has to be much more grassroots than that.

For instance, in Flint, Mich., I gave a talk 5 years ago. And they had never heard of a drug-addicted baby.

Mr. DORNAN. Just 5 years ago?

Dr. STRYKER. Five years ago. Dr. Dorn who is chief of the OB and gyn department. He comes from England. He has had me back twice, the last time was a couple months ago. In the last 6 months, they have had nine addicted women who have delivered.

Now, he feels, and I feel, both, that they just never identified these youngsters and women prior to this time. So they have set up a methadone clinic, and when they identify the women, they are referring them to the special clinic. And he is doing this on his own, with the funds he has available, through the generosity of Mr. Mott's facilities.

Mr. DORNAN. Is there a continuing program to educate doctors nationwide?

Dr. STRYKER. Just what we do. I do a lot in ACOG [American College of Obstetrics and Gynecology]. I have given several lectures, and it is in our journals.

Mr. DORNAN. Miss Portis, you were nodding your head in affirmation that many doctors just weren't aware that they were treating an addicted mother. This is a surprise to me as a nonmedical person in that I thought the present thing that happened with a pregnant woman when she went for medical care was urinalysis and blood test.

Dr. STRYKER. But not a drug screen, Mr. Dornan. That costs $19.

Ms. PORTIS. That's right. And most of our clients don't even have medicaid. And also, I find in Massachusetts especially around the community health centers and the hospital that we affiliate with, we had a very hard time trying to educate those people because they

were "the doctors." But we had other kinds of knowledge that we knew they could benefit from and could probably save someone's life. And it was difficult to do.

Dr. FINNEGAN. Certainly Dr. Stryker and myself and probably Kattie Portis and a few others who have been doing this for awhile have run across this country on several occasions, giving various lectures on what happens to these women and what one should do for them. So, I think the medical community is aware of this problem. The thing that should be stressed is that even though doctors are educated, the problem is, does the medical community in general want to take care of these women? And the answer to that is no. You heard from Dr. Stryker, you have heard from all of us as to how difficult it is to care for them—and from Dr. Brotman—that to put the services in one setting is extremely important. You can't expect that an addict who is not a very responsible person, who has now finally decided to at least get off of her chemical dependence by perhaps detoxing, or going onto a methadone maintenance program, to all of a sudden do everything. That is, to get to her medical care, her social care, and everything. And if you have it at least in one setting, you may be able to coerce her to do all of these things which she needs because she truly is suffering. If the medical profession could only realize that addiction is a chronic relapsing disease that needs intensive treatment. We don't penalize people for having chronic lapsing diseases—unless it is addiction.

Mr. DORNAN. If I could just ask some questions of all three of you, and if any of you have any comments, just volunteer the answer. We are dealing with so many different age groups, starting with a teenaged girl, and it crosses all socioeconomic lines to a married mother who may have other children.

Could I ask if any of you have been able to branch out in your programs to include the other children, say? And one of our witnesses this morning had an 8-year old child. This is a very delicate and impressionable age. Here she is dealing with her mother's problem of methadone maintenance and prior addiction, and also there is a little child in the house that is way beyond a colicky baby, maybe.

Do you, Miss Portis, have any treatment for children?

Ms. PORTIS. We have a residential program in which they come in and bring their children with them. And they live there from 6 to 9 months. We just recently started a day-care center in October. And we plan to deal with all of the children that might be in the family.

But, once again, we are looking for funding. And the program is not as solid as it should be yet because of that.

Mr. DORNAN. Again, to all three of you, if you find the mother is abusing her baby or any other children, do you disclose that information to any authorities? And if so to whom?

Ms. PORTIS. We are mandated by law to report.

Dr. STRYKER. Michigan has this law, and we found ourselves in a real dilemma because also, if you identify a lady as being an addict, you are breaching the confidentiality laws of the Federal Government.

So I didn't know really whether I wanted to go to a Michigan pen or a Federal pen. I was sort of up in the air. So we took it to court, to HEW, and we are now able to identify our babies. We won that battle; we feel it is important.

Mr. DORNAN. By focusing on the babies, right?

Dr. STRYKER. The baby's rights and being able to say this is not baby John Doe or Jane Doe, but this is baby Mary James of Mrs. James progeny. But we do not feel that all children need to go to protective services by far. And we use the same standards in our own clinic in identifying a baby of potential abuse as we would in our regular prenatal clinic. It is just now that we may identify that youngster and have it cared for and not go around the bush with our problems regarding confidentiality.

Nine percent of our babies have been identified as being abused.

Mr. DORNAN. You are reading my mind. I was just going to ask that. And I would like you other ladies to contribute something to that, too. Almost 1 out of 10, then, is abused by the mother?

Dr. FINNEGAN. I might add, in general, those who have been abused in our program have not been abused by the mother per se, and not the father of the baby, but a boyfriend or another individual who has been caring for the child. Most of our situations have been those of neglect, a situation whereby the addict does not realize that living in a trailer with an infant/child and a 4-year old is inappropriate housing or not bringing them for medical care or not really providing appropriate nutrition of the child.

But it is not actual physical abuse. Our experience has been that where actual physical abuse has taken place, it has usually been by other than the addict mother.

I would like to just address the previous issue as far as the rest of the family. We have in our program, a facility to treat the whole family, called the family center, whether that be mother/father, mother/boyfriend and child or mother and grandmother, mother and sister, whoever the so-called family is, and in that context we work around the issue of child abuse, starting out very early from the time we get the mothers enrolled.

One of the educational processes is, in addition to teaching them about pregnancy and hygiene and all of the things one should know about labor and delivery, we teach them parenting. And I think many other programs here are addressing that issue. If you can teach them that, because many of them have never learned to be parents, this may prevent future abuses. One has to be parented to know how to be a parent, and perhaps many of them have this additional problem because of the lack of parenting in their own lives. So we do teach them; we support them. We support them not only in the clinic setting, but also in their homes.

As Dr. Stryker mentioned, there are evaluations in the home and assistance in order to make them understand what is involved in the whole issue of parenting. If they do not learn, we then have appropriate resources to tap in order to give them either additional support or in fact, if necessary, a petition for the baby to be removed.

Mr. DORNAN. I have never seen in mass media, many of the shows on child abuse, the tremendous impact that drugs, including alcohol, has in this whole field. One of the things that is supposed to separate us from the animal kingdom is this abstract thing called free will which an addict loses very soon once their addiction is entrenched.

But here comes an innocent baby in the world with a problem it had free will for, and for its troubled state, it gets beaten by someone other than the mother.

Is this your experience in Dorchester, this 1 out of 10 abuse problem and much of it someone other than the mother?

Ms. PORTIS. We get a lot of women after the fact, after they have had the baby. They are usually referred from the hospital by the social worker. And we haven't seen any physical abuse of the children. We have seen severe cases of neglect.

The few cases of abused children that we have seen have been by the boyfriend or another family member. And the reason for that is because when the women are pregnant in Boston and they go to seek service, if they do that, a 51A is immediately filed on them. When they do go into delivery, the baby is automatically removed from her. I think that is the reason we are not seeing a lot of that.

And if she doesn't go for service—9 out of 10 don't—they immediately file a 51A. They can wake the judge up in the middle of the night and say, "We are keeping this baby." So by the time we see a lot of the women, the children are already in place, and our work is to help her to build herself up and to look at some of her other issues and work with the social workers in the court and the lawyers and try to get the children back in the home.

Dr. FINNEGAN. We don't have that law in the State of Pennsylvania. In order to take a baby away, it is extremely difficult, which is somewhat frustrating sometimes. I understand we have to protect the rights of our mothers. But in this situation, I have been standing in court on many occasions only to be told that the mother, who presents herself in a very positive way on that day, may have her baby when, in fact, I have seen that she has not been rehabilitated; that she cannot cope.

The thing that protects many of our babies, though, is that somehow when these mothers go back on the streets and in essence could not be mothering their children, they don't just leave them on a park bench. They give them to their mother, to a sister, to a friend. And, therefore, when we do our followup studies, we find a reasonable number of our babies not with their mothers, but well cared for.

Dr. STRYKER. And extended families. We have a group of babies who were into foster homes for one reason or another from the very beginning. And we have been able to follow this group of foster babies, foster home babies. And the foster home babies are not doing nearly as well as the babies who are reared by their mothers or what we call the extended family.

Mr. DORNAN. Dr. Finnegan, what kind of treatment do you give to a woman who comes to you already in her last month of pregnancy and can you introduce them at that point to methadone?

Dr. FINNEGAN. Yes, we do. We tried the alternative which was to try to dextoxify them. Detoxification in pregnancy is met with hazard, and there is a lot of research data to back this up in that individuals have done various hormone studies and have looked at the outcome of babies whose mothers were either detoxified in the first trimester or the last trimester.

The first trimester detoxification is frequently associated with abortion. Last trimester detoxification is frequently associated with the onset of premature labor and, therefore, premature birth and also fetal distress with the occurrence of the meconium aspiration syndrome problem I mentioned, the aspiration pneumonia.

There is a safe period, though, if one goes very carefully, and that is the midtrimester. So, if we get a woman early and she is extremely motivated and has not been addicted for very long, we will try to

detoxify her at 2½ milligrams every week during the 14th week of pregnancy through the 32d week, trying to get her down to the low dosages Dr. Stryker mentioned, in an effort to reduce the withdrawal syndrome in the infant.

But if she comes too late, we have to put her on a dose that is appropriate to hold her until the time of delivery. We will, of course, put her as quickly as possible through the educational aspects of the program, provide her with the psychosocial counseling, and also any psychiatric care that is necessary.

We have three obstetricians and a psychiatrist and internists that are available if they have a particular medical illness such as thyroid disease.

Mr. DORNAN. That was my next question. Is your psychiatrist a regular part of the team or is he just parttime?

Dr. FINNEGAN. He is a regular part of the team. He is not there 40 hours a week, but he is available every day in order to see women who need to be evaluated.

Mr. DORNAN. Dr. Stryker, do you also have psychiatric help?

Dr. STRYKER. Yes. Dr. Beall comes to the clinic every morning at 8:30 which works into her schedule. And unhappily, early morning is not really good for patients, but at least we have her every day for 2 hours. And she has been with me now—I knew her as a medical student. She has gone through her training, and she is also interested in obstetrics. It has been a very good team with her.

Mr. DORNAN. Dr. Stryker, how do you handle a poorly motivated patient with continually dirty urine, constant lateness, missed appointments?

Dr. STRYKER. As I say, they really get you down sometimes. And the term "burned out," I have had several of my staff burned out. And I have had to replace them because of just not being able to cope with the patients any longer. But we do try to cope, and we do try to bring them in. And we do try to find new ways to entice them into the clinic.

We use all kinds of golden carrots, including money to get back in, especially by baby exams.

Mr. DORNAN. How do you do that?

Dr. STRYKER. If the mother isn't bringing the baby in, we will pay for babysitting, cab service, $20, thanks to NIDA. And it helps.

And the second thing we do, we have a layette, a very fancy layette. And if the mother can follow the dictates of the clinic and keep good, and the baby is fine, we give her this very fancy layette with a lot of fanfare. This is a status symbol.

Mr. DORNAN. Is that from NIDA funds also?

Dr. STRYKER. No, this is from several churches.

Mr. DORNAN. So charities help you also?

Dr. STRYKER. Yes, and the March of Dimes have helped us. I am really good with a tin cup.

Mr. DORNAN. Miss Portis mentioned family members being burned out. If someone gave birth, a heroin mother, and her own mother and father, brothers, sisters, get burned out, it is certainly understandable that your medical staff, who are dealing with someone they don't have direct blood ties to, would burn out even more quickly.

Do you have a tremendous staff turnover? There aren't that many Mother Theresa's in the world that just keep this constant dedication.

Dr. FINNEGAN. Here is Mother Theresa and her associates.

Mr. DORNAN. I realize we do have three with us today.

Dr. STRYKER. We try very hard to rotate my staff. I have learned to do that. In other words, I don't keep the nurses and social workers in the annex clinic—we call it the annex clinic. I rotate them through the other departments of the hospital. I learned that from the Navy.

Mr. DORNAN. Because it keeps the interest level up and also gives them a broad range of experience so they appreciate what they are doing?

Dr. STRYKER. Then, they don't get burned out, you see. If I find signs and symptoms of getting burned out, then I go talk to personnel so we transfer the personnel to another department.

Mr. DORNAN. Miss Portis, could I analyze, for example, your structure there in Massachusetts? What sources give you funds, and in just very round percentages?

Ms. PORTIS. We get a small amount from the State. And that is even NIDA money that comes through the State. And we have a research and demonstration grant which will be over in another 18 months for the parenting program in the child care center.

Mr. DORNAN. Which program is that?

Ms. PORTIS. The parenting program in the child care center.

Mr. DORNAN. That is a Federal program?

Ms. PORTIS. Yes. And the rest, we get——

Mr. DORNAN. What percentage would NIDA be, then, and what would you do with NIDA funds other than the cabfare which is a very worthwhile expenditure for the baby's sake?

Ms. PORTIS. I am in a parenting and child care program as research. And NIDA is mostly interested in research. So we sneak in a little bit of service; that is up to us. That is what we have been doing, consulting and doing research designs and all of that stuff.

And we had money to start the child care center, but NIDA won't be funding it after that. It is just demonstration.

Mr. DORNAN. What type of outreach program do all of you have, Pennsylvania, Michigan, Massachusetts?

Ms. PORTIS. Well, being a community-based program, we probably look different because we are small. We can only service 14 women and 10 children. We only have 14 women and 10 children living in the facility. And most of us are from the community, and we know where the people are. We know somebody's mother, aunt, and it goes like that, the social workers.

Because it sounds big, but Boston is really small. So we go where we have to. We get a call from a concerned grandmother saying, "I am worried about my granddaughter, and you can find her around the bar." We go down to the bar and the hospitals and jails; wherever the woman is, that's where we go.

Mr. DORNAN. I was interested, I think it was Dr. Finnegan that said, if these people watch television at all, it is very late at night.

Ms. PORTIS.I did.

Mr. DORNAN. It was you that said that, Miss Portis, but that would be the experience of all of you? Just because their body clock is all reversed, they become night people. My television friends tell me the easiest place to get public service spots placed on television is late at night. As a matter of fact, that's where they dump them. This is where it would have the most beneficial effect because that is where

your addicts, lonely, use that television set as a friend when they can't get to sleep at night.

And if you have any suggestions at all, any of the three of you, that you might want to add now about how we can generally educate the whole population in the United States to this problem——

Dr. STRYKER. Television in 15 minutes reaches so many hundreds or thousands or millions, whatever it is, versus if we go out to a school or a church group or community group. We may reach 30, 40, and spend an hour. So expenditure of time on TV is much, much better.

We have the privilege, though, of our TV in Detroit, all of my staff have been on at various and sundry points, and we are always getting a little spot here and there.

Mr. DORNAN. Tom Snyder who hosts the NBC "Tomorrow" show is a personal friend of mine. His audience is somewhere around 8 million people. And I would assume in your testimony, he has a larger percentile in his thousands of people who have problems with chemicals than any other audience in this country. And I would like to send him this testimony when it is prepared and point out that I mentioned him and ask if he could contact you and if you could go on with these slides to show particularly a pregnant mother, see what the end result would be to her innocent child. I think it would have beneficial effects.

And what I would like to do now because we Congresspeople get all the fun of asking all of these intelligent questions that our staff have produced for us, and the staff on this particular committee and all of its various task forces is one of the most dedicated groups of people I have come in contact with while I have been on the Hill. I would like to ask each of them to identify themselves if they have any other extra questions for you; whereby Alma Bachrach and Toni Biaggi introduced themselves as the staff coordinators working on the Women's Task Force.

And I would like to just make one comment on what I have gotten out of this. I have tried to inform myself on this whole narcotic area. And there has been some personal agony of my own family with it—not any of my five children with it, thank God—but I have stood in an opium field in Burma on a trip. And it is still generally not even known in the Congress or across the country, but a trip that almost caused the death of four Congressmen.

There was an army—and I use that word specifically—an army of 6,000 people who live off this illicit opium production coming to murder all of the four Congressmen only a month after Congressman Ryan was tragically killed in South America. And we would have been headlined, the four of us, including the chairman, Mr. Wolff, had it not been for the fact we had rerouted our schedule and gone into Burma 2 days early and left 2 days early. So the army had not been able to destroy us with their mortars and guns.

Standing in that opium field, looking at the beautiful red and white poppies, I had extended this train of agony that begins there to the drug users in the streets of Detroit, Philadelphia, and New York, the men and women who are caught up in it. I have never extended the tragedy to the innocent child in the womb which seems to me to be the ultimate extension of what starts somewhere far around the world with this illicit drug production.

And what you have said in your slide presentation, both of the doctors, about alcohol, and also in your testimony, Miss Portis, I think you used the word "horrendous," the effects of alcohol, which is

the drug of last resort when our law enforcement authorities begin to dry up the frightening sounding names of heroin or the romantic name of cocaine because of the Hollywood scene and its usage.

They also can go down to the local liquor store and get liquor to again crush this innocent child.

So I again can't tell you how much you have expanded my imagination in what is probably the saddest aspect of all the drug abuse, and that is someone who had free will at one point in their life extending this terrible suffering onto a totally innocent human being in the womb, and it continues out of the womb.

So if I could turn to any of those——

Dr. STRYKER. Mr. Dornan, I would like to take one point, one of the things we had started out, one of our researches, is to know if a baby is addicted at birth, will they also be addicted such as an alcoholic and an addict. Of course, we have not been able to prove that because none of our youngsters that we have been following have gotten old enough to get into the drugs.

We have had 12 youngsters who had to have Demerol in the hospital for a surgical procedure or broken bone. And none of them had untoward reactions from that one shot of an appropriate narcotic.

But we are—I'm sure Dr. Finnegan's Children's Hospital, too—well aware of this problem. And we are really watching these youngsters.

Mr. DORNAN. Your background is 10 years or more, more than a decade?

Dr. STRYKER. 1969.

Mr. DORNAN. Are you still keeping track of children? You have children as far as 11 years ago?

Dr. STRYKER. I have some data on some of them. I didn't have any funding, and I didn't know how important it was. I wasn't interested in collecting data at that point. I really only started collecting data in 1973.

Mr. DORNAN. So there is really no data more extensively, say, on smoking, let alone marihuana smoking or anything else?

Dr. STRYKER. No.

Mr. DORNAN. Dr. Finnegan, do you know of anybody in the country who has a larger research background than, say, 10 years, 11 years?

Dr. FINNEGAN. No one who has done a longitudinal study with appropriate control populations. Only the centers in the Detroit area, our own babies, 3 year olds in New York, and a very small number of 3 to 6-year olds in Houston.

Mr. DORNAN. Right. Well, this is certainly an area where the Federal Government can help.

Does anyone on the staff have any questions they would like to ask?

One of Congresswoman Collins' staff has a question.

Ms. WILSON. My name is Denise Wilson.

You talked about the negative aspect of drugs on unborn children. I have a question with regard to smoking and drinking. And this is cigarette smoking. How soon do you begin to cut that off if you know that you are going to start trying to have a child?

Dr. FINNEGAN. Smoking?

Ms. WILSON. Yes, smoking, drinking.

Dr. FINNEGAN. There is a very, very nice report by the Surgeon General that just came out, that has 40 or more pages that delineate all of the research that has been done in this area.

If you stop smoking about the 4th month of pregnancy, you can probably eliminate the low birth weight and growth retardation that occurs in these infants.

Of course, ideally, one should stop smoking as soon as one identifies that one is pregnant. There aren't any data that say congenital malformations occur from this, but the growth retardation which I explained to you before does have a 33 percent chance of having long-term growth retardation as well as neurological sequelae. It depends on how you want to gamble.

Mr. DORNAN. Could I follow up on Denise's question? There has been a very tragic reversal of some medical research here recently on drinking in moderation for alcoholics. You recall, and it is all since I have been in Congress, which I am just barely into my 4th year, so it might have been my first year here—some governmental group or alcohol-industry group said that alcoholics could drink in moderation, and then all of a sudden, I remember a few months ago, there was a big report came out that said, "Hold it. Stop. We were wrong, and we have probably caused untold agony with alcoholics starting to drink again."

Could you follow up on Denise's smoking question on alcohol and include wine which is becoming a nice social substitute for hard drinking?

Dr. FINNEGAN. If you are talking about alcohol and pregnancy——

Mr. DORNAN. And pregnancy, yes.

Dr. FINNEGAN. There has been some very nice work done by researchers in that particular area, including Dr. Henry Rosett from Boston, Dr. Sterling Clarren, and David Smith from the University of Washington, and Dr. Ken Jones from San Diego, Calif., and a few others, such as Dr. Ann Streissguth, who have looked very carefully at that. The FDA had a bulletin come out in 1977 with some recommendations. It basically says that drinking of greater than 3 ounces of absolute alcohol or six bar drinks per day may be detrimental to the fetus from the standpoint of fetal alcohol syndrome.

You have to realize that there is a difference between fetal alcohol syndrome and minor effects that may occur from drinking alcohol. Drinking moderate amounts of alcohol even in middle-class populations has been associated with low birthweight. And certainly the amount of alcohol, the duration of alcohol and the time in pregnancy that the mother drinks the alcohol is particularly important. Alcohol probably does cause congenital abnormalities as has been noted with the faces that have been seen in these babies and overall congenital abnormalities, including heart, kidney, etcetera.

Mr. DORNAN. Could you pause and describe the facial distortion?

Dr. FINNEGAN. The fetal alcohol syndrome includes several areas of abnormalities. The first one is central nervous system dysfunction. The infant will have fine motor dysfunction and in childhood may have mental and motor retardation. In fact, in the first series by Ken Jones, they listed that 44 percent of the children born to chronic alcoholics will have mental and motor deficiency.

The second part of the syndrome is the prenatal and postnatal growth deficiency. In other words, these babies are small when they are born because of intrauterine growth retardation, and post-delivery they continue to be small. A typical example was a baby we recently had who at 5 weeks of age still weighed less than he weighed when he was born.

Mr. DORNAN. And this might continue into their adult development also?

Dr. FINNEGAN. That's correct. So if the body isn't growing, the brain isn't growing either. Remember that.

The third part of the syndrome are the facial characteristics. These babies have epicanthal folds in the eyes. They look very much like orientals. There is the absence of the philtrum—those two lines coming down from the nose—a thin vermillion border, a small chin and small head. Their ears sometimes are malformed, and they have something called mid-face hypoplasia. The mid-face looks abnormal, because it is smaller than it should be in proportion to the rest of the face. A turned-up nose has been seen. These make up a constellation of characteristics. And when one diagnoses the fetal alcohol syndrome, one cannot look for just one of those characteristics; one has to look at the whole syndrome.

I think what worries us most is—certainly we know that the chances do exist for someone to have fetal alcohol syndrome if they are a chronic alcoholic—but, I think we are still at a dilemma as to what to tell the pregnant woman she can drink.

I don't think we have enough evidence to say she has to be abstinent all during pregnancy. I think we have to tell her she must drink in moderation. And that is, she cannot drink more than probably a couple of drinks a day on the average. This means you cannot be a binge drinker, which means you cannot be abstinent Monday through Thursday and go out on a binge on Friday and come back on Sunday having had 25 drinks, because the total amount of alcohol in the bloodstream is a critical factor.

Mr. DORNAN. But if a highly motivated pregnant mother comes to you and says, "I want to do everything I can to have the healthiest baby I possibly can," total abstinence from liquor and cigarettes is the best way to go?

Dr. FINNEGAN. If she can do it, yes. Because I don't want her to go on Valium in order to calm her nerves.

Dr. STRYKER. That's right. And, of course, the whole business of tranquilizers can be just as detrimental to the fetus as can heroin or methadone.

Mr. DORNAN. And you are tracking this, too, as best you can with your limited funds?

Dr. STRYKER. Well, we do it with our urine. Our ladies have two urines a week. And they are not always on Mondays and Wednesdays. It can be Tuesday at 4 o'clock and Thursday at 8 o'clock or whatever time. So we ask them so that they can't plan when they are going to have their urines.

Mr. DORNAN. Well, it has been 4 years now since I heard Howard K. Smith on the evening news, and he is not there regularly any more, and it is Valium and Librium were going under the Dangerous Substances Control Act. And I wonder, are there any studies on psychotropic drugs, particularly Valium with pregnancy, any papers at all that you have come across that have been written on it?

Dr. STRYKER. I have only had one or two truly Valium babies, like I have only had three Talwin babies, four Talwin babies, and only a couple of other pure babies. So it is very difficult. It is sort of like the alcohol syndrome; these youngsters show a variety of problems.

Dr. Finnegan can address that much better than I because she is the neonatologist.

Dr. FINNEGAN. Yes. The answer to your question is yes. There are papers that have shown effects of Librium and Valium and other psychoactive drugs in response to the growth of the fetus and also in response to withdrawal syndromes.

I mentioned in my presentation that there are withdrawal syndromes. There are also depressive reactions in the baby whereby for several weeks, they cannot suck. They have low temperatures and are very inactive.

Mr. DORNAN. Right. And it is also fair to assume, since the most complex and mysterious part of our whole body is the human brain, that if alcohol or other chemicals can change a nose, the chin, facial structure, eyelids, it certainly is doing damage to the brain or changing the brain which can affect learning ability later in life. And that is the saddest of all.

Dr. FINNEGAN. Mr. Dornan, I wonder if I might ask you a question. You have heard a lot of information this morning and your committee has heard a lot of information concerning the needs of these pregnant women who are addicted and their children. My question is: what will you do with this information and how will it help these women and these children?

Mr. DORNAN. It is a very fair question and one that I think about constantly as a Congressman because of the number of problems that we have paraded before us in the course of just a week, if not a day. I only learned a few days ago that arson in our country, not vengence arson or sexual psychomatic arson, but arson for insurance purposes has quadrupled in 4 years. It is just an epidemic. And that is something I had never thought of coming to Congress would be presented to me just 1 day out of the blue. And our energy problems, the world scene exploding with potential war facing us. You wonder what you can do when you read about a new problem like this.

The answer is we rely on our staff, the staff of select committees like this, or standing committees, to try and focus all of this information, get it to the Congressmen they think can best make a case on the House floor to cut up a tightening Federal pie of available money.

And there are so many agonies across the world and across our country that every Congressman or Congresswoman tries to fight as best he/she can to focus that money on his or her own priority list.

I sometimes have an advantage because I come from a large market of communications, Los Angeles. And I go on television a lot because I have a television background where I will mention problems that have come before me and maybe motivate someone who is a specialist in life as you people are and not a generalist the way a Congressperson or a Senator is, to do something about it.

And on that, it is a good point to close because I think we have seen two young women come before our committee earlier, following the doctor, suffering and trying to find some motivation in their life to turn a negative into a positive aspect. And I think I have seen something of the quality of Mother Theresa before us with this panel. And all I can say is God bless you and good luck to you. And keep hammering away on this Congress of ours that turns over.

We already have 82 new people this year who are here, out of 435, who weren't here last year. That is a tremendous turnover. And it will be more as the job gets more and more difficult. And it is a difficult job, whether it is a candidate or incumbent who tells you that it is.

So God bless you and good luck.
The session is adjourned.
[Whereupon, at 2 p.m., the hearing was adjourned.]

REMARKS FROM DR. JUDIANNE DENSEN-GERBER, ODYSSEY HOUSE, NEW YORK, N.Y.

There is a great need to address the issues surrounding women in treatment for substance abuse. In the last ten years, the ratio of women seeking treatment has shifted from eight to one to one out of three. Odyssey Institute has long concerned itself with the plight of the female addict and in the early seventies began to specifically address the long-neglected problem of the pregnant addict as well as the addicted mother with her newborn child. As a result, the National Institute on Drug Abuse awarded a three-year research demonstration grant to the Odyssey House Parents' Program to—

1. Develop healthier adult concepts of self and parental roles and,
2. Provide for the ultimate well-being of the child.

Not only is the parent helped to achieve a mature drug-free life at Odyssey House, but he or she is also helped with the acquisition of child nurturing skills.

It is a determined factor that addicted women suffer from a low sense of self-worth, hostility (particularly toward males) and lack of initiative in assuming control of their own destinies. These women lack the necessary wherewithal to positively negotiate the system on behalf of their children. As mothers, they are grossly lacking the necessary parenting skills to assure a protective environment for their child(ren), are frequently motivated by an unconscious drive toward pregnancy as a means of establishing a sense of femininity for themselves, and, because of the deviant lifestyles, are poor roll models to their children.

In reviewing the histories of Odyssey's female patients, an alarmingly high rate of incestuous experiences has been discovered, warranting the conclusion that incest is a major factor leading to the development of antisocial behavior. Having experienced as children an environment that was an unprotected one, these women exhibit a marked inability to protect themselves from self-destructive behavior and unfulfilling relationships. They seek to escape the hurt, pain and guilt feelings resulting from their disruptive, multi-problematic childhood through drugs, sexual promiscuity and prostitution.

In addition to the sexual abuse, many of these adults are victims of child neglect and physical abuse who continue the cycle by abusing their own children in turn. The addicted parent tends to view the child as his or her property, a possession to do with as they please. As a result of their own needs for warmth, closeness and affection not being gratified, these women are unable to meet these needs in their own children which are so important for healthy growth and development.

We must begin to recognize that the female addict has special treatment concerns. The problem is even more complex when there are children involved. Specialized services and procedures must be established to safeguard the rights and needs of these children to ensure that they grow and develop into strong and productive adults.

PREPARED STATEMENT OF DR. RICHARD BROTMAN, ASSOCIATE DEAN AND PROFESSOR OF PSYCHIATRY, NEW YORK MEDICAL COLLEGE

My purpose in appearing before you today is not to ask for more appropriations to support my special concerns, nor is it to make a plea for the widespread adoption of a particular treatment modality, nor is it to take issue with present public policy with respect to drug abuse. Rather, it is to describe briefly the work of one of the handful of programs that presently exist for the care of pregnant addicts * * * and in so doing to raise a bit of hope and raise certain issues which I think should be included on our agenda of unfinished business.

The program I represent is called the Pregnant Addicts and Addicted Mothers Program. It is part of the Center for Comprehensive Health Practice of New York Medical College in New York City. The program, which we who work in it refer to by the acronym PAAM, is one of about a half dozen such programs supported by the National Institute on Drug Abuse (NIDA) in metropolitan areas across the country. Before I describe the program itself, it may be helpful to say a few words about the situation that led to the establishment of PAAM and the other programs like it.

At present, about one-fourth of the opiate addicts enrolled in drug programs are women, almost all of whom are of child-bearing age. This proportion has

increased considerably since the 1960s. In New York City alone, approximately 1,000 addict births are counted annually by the city's health department, and these are only the ones that come to official attention. The true figure is undoubtedly much higher.

Until the early part of this decade, when methadone programs became widely available, few pregnant addicts received any prenatal care. In fact, most saw a doctor for the first time during their pregnancies when they appeared at a hospital to give birth. It is not surprising, then, as shown by a study of nearly 400 addict births during the 1960s on the obstetrical service of one of our affiliated hospitals, that many of the women suffered from a variety of obstetrical and other medical complications, and that many of their newborns were premature, of low birth weight, and, of course, addicted. What happened to these mothers and babies? No one knows, since few returned for follow-up care. But given the vicissitudes of life in the addict world, the prognosis was probably not good for either party.

Since the early 1970s, more and more pregnant addicts have joined drug treatment programs, especially methadone maintenance programs, which means that at least some medical care has been made available to this population. Nonetheless, as several studies, including one done by our staff, have shown, care for pregnant addicts typically remains rather fragmented. Drug treatment is given in one place, prenatal obstetrical care in another, and pediatric care in yet another, if at all. Staff members of the ordinary drug clinics which see pregnant addicts—and we have held discussions with many of them—are themselves keenly aware of this fragmentation, but are at a loss to change the organizational systems which create and maintain it.

Enter NIDA. In the mid-1970s, recognizing this as an important area of public health concern, NIDA began to support a number of programs for the care of pregnant addicts. PAAM was one of them. Inaugurated in February 1975, PAAM is designed to provide long-term comprehensive care to 110 pregnant addicts and their families. By this we mean that a full range of services addressed to the medical and social needs of these families is available within the program, and that care is continuous from pregnancy, through childbirth, through the early infancy years.

Specifically, the program services include, first, methadone maintenance, usually at a low dose through delivery, after which the mothers are encouraged to detoxify if possible. And, in fact, many do detoxify. Of the women currently on the program, about two-fifths have come off methadone.

Second, there are medical services, including obstetrical, pediatric, and general medical care, and the delivery of the baby at one of our affiliated hospitals. This care is given not only to the pregnant addict herself, but also to her older children and other members of her family.

Third, there is counseling, oriented toward family relationships and also toward helping the patients manage the numerous practical problems which confront them in housing, income, legal involvements, and so on.

Finally, but by no means least important, there is a unique feature of PAAM—parent education. Since most of our patients, having little education and few job skills, subsist on welfare, we stress the value of parenting as a worthy career in itself. Parent education in PAAM begins with a series of prenatal classes on the nature of pregnancy, self health care, nutrition, and preparation for childbirth. Once a woman delivers, parent education continues until her child is two years old. Instruction is given in weekly classes comprised of eight to ten mothers, and we have six such classes in all. The focus is on helping the mothers to understand what behavior to expect at different stages of the baby's development, as well as on infant care and child-rearing techniques. The program also includes a preschool nursery for about 50 children who are over two, and here we help the mothers enroll their children in day care or school when they reach the appropriate age.

So you can see that PAAM is, as I said, comprehensive. It is also very demanding. We give little take-home methadone, so all patients on methadone must come in at least six days a week for medication. Patients must see their counselors at least once a week, and must keep to a regular schedule of prenatal and postnatal medical examinations. They are also expected to participate in the parent education classes. Despite these demands, the women tend to stay with the program. Most of them join PAAM in the second or third trimester of pregnancy, and almost all stay through the delivery of the baby, with over half remaining with us until the child is at least a year old. Why do they stay? After all, most other programs are far less demanding. Obviously they recognize that they are getting something from the program—but what?

To some extent, the answer to this question lies in the results of the studies we have conducted to evaluate the program. For example, a study of the first 105 births on PAAM found that the rate of obstetrical complications and adverse neonatal conditions such as prematurity and low birth weight was markedly lower than for untreated pregnant addicts. This study also showed that the earlier in her pregnancy we saw a woman, and the more often we saw her, the better was the outcome. In other words, the timing and frequency of care make a real difference.

In regard to what happens to the babies in infancy, we now have a study underway which traces their medical and developmental status up to age three. However, a preliminary study of 60 infants born on PAAM found that, overall, their psychomotor and congnitive development has been remarkably normal. Moreover, contrary to what one would expect, we found that the initial deficits, such as prematurity, suffered by a small proportion of the babies did not affect their performance by one year of age. We suspect, though in fairness cannot prove, that the parent education classes, in which mothers are taught how to foster their children's development, were important in bringing these children back onto a normal developmental course.

Finally, in a recent follow-up study of 100 patients, we found that the great majority said that the program had been helpful to them in dealing with a broad range of problems, and that when help had been given with a particular problem, the troublesome situation usually improved. Furthermore, we learned that giving help in certain areas, such as drug use and health, creates so-called "halo" effects, meaning that not only do these areas improve, but so do other areas such as family relationships, housing, leisure activity, and legal involvements.

In short, we have found that our patients recognize and value the kind of comprehensive care PAAM is able to provide. Most of them have normal pregnancies and deliver healthy babies. Those who have a legal or common-law spouse usually report that their marital relationship has improved and that the father actively helps with infant care. The large majority comment favorably on the parent education classes. Many, with the program's help, have secured better housing. And for most, illicit drug use has sharply declined, as has illegal activity aimed at generating income.

All in all, PAAM—and undoubtedly the other programs like it—has achieved a considerable measure of success. And it goes without saying that, in my opinion, we need to continue these programs and support new ones. But now, in my last few minutes, I would like to look past our present achievements and speak to certain issues that have emerged in the light of our experience.

First, how can we bring comprehensive care to those settings in which most pregnant addicts are treated? I alluded earlier to the fragmentation of care that typifies treatment in such settings, and to the frustrations felt by the persons working in them. Right now these people have the will, but not yet the way, to change things. The answer, unfortunately, is not to be found in the medical or drug journals, which are fine, for example, for communicating to individual practitioners the best method for treating an addicted infant, but not for bringing about organizational change. One answer, perhaps, is to support the current special programs as regional training centers which can send out on-site teams to those places that want assistance in developing comprehensive approaches to care delivery.

A second important issue pertains to the patients now in PAAM and the other special programs. By the time their children reach school age, they are usually gone from the program. But where do they go? Some go on to methadone maintenance programs, while others face an uncertain future. We may as well face the fact that many, possibly most, will be chronically dependent on welfare, publicly supported medical care, and other such services. If we don't want the initial good work of the special programs to come eventually to naught for mother and baby, we had better begin now to develop some form of long-term after care, so that patients can return for help when they need it.

Finally, what of those who are the bright successes, those who have given up drugs, enrolled in school or found jobs, and moved to new neighborhoods? We have found, in doing follow-up interviews, that these women don't want to step foot in PAAM anymore, though they still need certain services, because they no longer want to be identified in any way with the addict world. We have enrolled a few of them in a general health care facility we operate apart from PAAM, but this is a stop-gap measure. We need to learn how to give them a sustained measure of programmatic support, for as far as they have come, any severe crisis could jeopardize all their hard-won gains. To do any less would be, implicitly, to renege on the promise of care we made in the first place.

In general, then, the question is how to apply the lessons we have learned and extend care, both across space to other places and over time to the families who no longer fit into our programs as presently structured. The challenge is subtle, complex, and clear. The response must be made by all of us—legislators, public officials, and treatment professionals—working together.

PREPARED STATEMENT OF LORETTA P. FINNEGAN, M.D., ASSOCIATE PROFESSOR OF PEDIATRIC PSYCHIATRY AND HUMAN BEHAVIOR, THOMAS JEFFERSON UNIVERSITY, PHILADELPHIA, PA.

EXCERPTS FROM: PATHOPHYSIOLOGICAL AND BEHAVIORAL EFFECTS OF THE TRANSPLACENTAL TRANSFER OF NARCOTIC DRUGS TO THE FETUSES AND NEONATES OF NARCOTIC DEPENDENT MOTHERS

(Prepared for the Division of Narcotic Drugs in Collaboration With the United Nations Fund for Drug Abuse Control)

(This Research Review has Been Accomplished During the International Year of the Child, January 30, 1979)

CONCLUSIONS AND RECOMMENDATIONS

As the epidemic of drug abuse has increased over the past decade, bringing with it numerous complex problems, a significant health dilemma has occurred in the United States and many countries of the world for which solutions must be found. Despite the accepted belief that opiate dependency suppresses hypothalmic function and fertility is affected, the ratio of addicted women to men has increased rapidly and helps to account for the steady rise in addict births during the 1960's and 1970's. Numerous investigators have reported the extremely high incidence of obstetrical and medical complications among addicts and the morbidity and mortality among passively addicted newborn infants that far exceed those found in any other high risk maternal and infant population. There is insufficient data on the long term effects of maternal drug usage. Controversy exists on how best to prevent and treat the adverse sequelae of addiction. However, initial data in programs providing comprehensive care for addicts have shown a significant reduction in morbidity and mortality to both mothers and infants. Further studies are needed to test whether it is possible to assist the mothers through education, counseling and early diagnosis and treatment of mental disorders.

Based on the successes of various approaches in the literature, as well as the paucity of specific conclusions in regard to prevention, treatment and long term outcome from reported data, the following recommendations for treatment and further research for drug dependent women are listed.

1. The pregnant woman who abuses drugs must be designated as "high risk" and warrants specialized care in a perinatal center where she should be provided with comprehensive addictive and obstetrical care and psychosocial counseling.

a. Additive care may involve voluntary drug-free therapeutic communities, methadone detoxification (depending on the time in pregnancy that it is requested), or methadone maintenance.

b. The pregnant drug dependent woman should be evaluated in a hospital setting where a complete history and physical examination may be accomplished and certain laboratory tests carried out to evaluate her overall health status. When appropriate, low dose methadone maintenance with substantial medical and paramedical support should be instituted. Detoxification, if requested or necessary, should preferably take place between the 16th to the 32nd week of gestation and be extremely slow (5 mg. reduction every two weeks). The pregnant woman addicted to barbiturates or major tranquilizers along with opiates should be detoxified during her second trimester in a very specialized detoxification center.

c. Psychosocial counseling should be given by experienced social workers who are aware of the medical needs, as well as the social and psychological needs of this population.

d. Encourage maternal-infant attachment prenatally and postpartum. Special emphasis should be on enhancing parenting skills of these women in an effort to decrease the expected increase in child neglect in this population.

e. Social and medical support should not end in the hospital setting but an outreach program, incorporating public health nurses and community workers should be established.

f. Assess ability of mother to care for the infant after discharge from the hospital by frequent observations in the home and clinic settings.

g. Assure mechanisms by which to follow and supervise the infant's course after discharge from the hospital.

2. Future research should encompass the following:

a. Study the effects of heroin and methadone use on the pregnant addict's lifestyle and collect socially and medically valuable data.

b. Investigate newer treatment modalities for the drug dependent mother to include the safety of various methadone maintenance dosage regimens for the fetus.

c. Study the dietary habits and nutritional status of the pregnant addict and compare results with control groups of non-addicted patients.

d. Evaluate mothering practices of women who have abused drugs during pregnancy to assess their ability to carry on a child-rearing role.

e. Develop "outreach" mechanisms so that more mothers and infants may be assessed in follow-up. This should provide a large enough experimental population for appropriate statistical analysis, as well as comparable control populations.

The major impact of comprehensive care coupled with methadone maintenance for narcotic dependent women has been the reduction of low birth weight infants including those prematurely born and appropriate for gestational age as well as those born near term but inappropriate for gestational age in whom mortality rates are the highest. This, in itself, has dramatically changed the incidence of morbidity and mortality for infants and children born to these women who have nearly a 50 percent incidence of low birth weight. The death rate of the low birth weight neonate is 40 times that of term infants of normal weight.

Moreover, it is known that the low birth weight infants born to heroin addicted women will contribute heavily to the population of infants who will eventually be mentally retarded (I.Q. of 70 or below), as well as those who will have great difficulty in school because they are "poor learners". These handicapped individuals will be unable to compete fully in our increasingly complex society. In addition, there is a high incidence of prematurity and undersized term infants among pregnant drug dependent women. The majority of deaths among newborn infants are associated with low birth weight. The death rate of the low weight neonate is 40 times that of the full size infant born at term. Moreover, the incidence of cerebral palsy associated with the prematurity, may be as high as 10 times; mental deficiency, five times; and lethal malformations in the undersized infants, seven times that in the full size infant. Emotional disturbances, social maladjustments, and visual and hearing deficits are also multiplied. If we do not begin to cope with this population in terms of prevention, as well as treatment, with the increasing number of female addicts we can expect an increasing need for custodial facilities for their mentally and neurologically deficient infants. The medical and custodial costs for these individuals are incalculable (Babson and Benson, 1975).

However, if pregnant drug dependent women are maintained with low dosages of methadone and are given adequate prenatal care, the complications of pregnancy can be readily diagnozed and treatment administered, and the morbidity and mortality during pregnancy, the neonatal period, and in childhood can be markedly reduced.

Clinicians in the field must continue to strive for excellence in the care of pregnant drug dependent women and their children. Government agencies must realize the responsibility to these women and children and to society and provide adequate funding for comprehensive services. Only if clinicians and government funding officials consider the appropriate care for pregnant drug dependent women and their children as priorities, will the human race be able to cope with the potential pathophysiological and behavioral effects of the transplacental transfer of narcotic drugs to the fetuses and newborns of these narcotic dependent women.

TABLE 1.—OBSTETRICAL COMPLICATIONS ASSOCIATED WITH HEROIN ADDICTION

Abortion	Intrauterine death
Abruptio placenta	Intrauterine growth retardation
Amnionitis	Placental insufficiency
Breech presentation	Post-partum hemorrhage
Previous cesarean section	Preeclampsia
Chorioamnionitis	Premature labor
Eclampsia	Premature rupture of membranes
Gestational diabetes	Septic thrombophlebitis

Finnegan, L. P. (Ed.) Drug dependence in pregnancy: Clinical management of mother and child. A manual for medical professionals and paraprofessionals prepared for the National Institute on Drug Abuse, Services Research Branch, Rockville, Maryland, 1978, Washington, D.C.: U.S. Government Printing Office, 1978.

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TABLE 2.—MEDICAL COMPLICATIONS ENCOUNTERED IN PREGNANT ADDICTS

- Anemia
- Bacteremia
- Cardiac disease, especially endocarditis
- Cellulitis
- Poor dental hygiene
- Diabetes mellitus
- Edema
- Hepatitis—acute and chronic
- Hypertension
- Phlebitis
- Pneumonia
- Septicemia
- Tetanus
- Tuberculosis
- Urinary tract infections:
  - Cystitis
  - Urethritis
  - Pyelonephritis
- Venereal disease:
  - Condyloma acuminatum
  - Gonorrhea
  - Herpes
  - Syphilis

Finnegan, L. P. (Ed.) Drug dependence in pregnancy: Clinical management of mother and child. A manual for medical professionals and paraprofessionals prepared for the National Institute on Drug Abuse, Services Research Branch, Rockville, Maryland, 1978. Washington, D.C.: U.S. Government Printing Office, 1978.

TABLE 3.—INCIDENCE OF SUDDEN INFANT DEATH SYNDROME (SIDS) IN INFANTS OF OPIATE DEPENDENT WOMEN

Investigator	Total infants	SIDS	Incidence of SIDS (percent)
Kahn (1969)	38	1	2.6
Pierson (1972)	14	3	21.4
Harper (1973)	244	4	1.6
Rajegowda (1976)	383	8	2.1
Finnegan (1978)	349	5	1.4
Total	1,024	21	2.1

Source: Finnegan, L. P. In utero opiate dependence and sudden infant death syndrome. Clinics in Perinatology, Soyka, L. F. (ed.), W. B. Saunders Co., Philadelphia, 1979, in press.

TABLE 4.—PHARMACOLOGIC AGENTS THAT MAY CAUSE ABSTINENCE SYMPTOMS IN THE NEONATE

- Heroin
- Morphine
- Alcohol
- Barbiturates
- Amphetamines
- Bromides (Relaxa tablets)
- Chloralhydrate
- Chlordiazepoxide (Librium)
- Diazepam (Valium)
- Ethchlorvynol (Placidyl)
- Pentazocine (Talwin)
- Imipramine (Pertofran)
- Propoxyphene hydrochloride (Darvon)
- Diphenhydramine hydrochloride (Benadryl)

Finnegan, L. P. The effects of psychoactive drugs (including opiates) on the fetus and newborn. In Research Advances (Vol. 5), Kalant, O. (Ed.), Plenum Publishing Co., New York, 1979, in press.

TABLE 5.—ABSTINENCE SYMPTOMS IN THE NEONATAL PERIOD

Frequency seen in 138 newborns at Family Center Program in Philadelphia

Common symptoms	*Frequency (percent)*
Tremors:	
mild/disturbed	96
mild/undisturbed	95
marked/disturbed	77
marked/undisturbed	67
High-pitched cry	95
Continuous high-pitched cry	54
Sneezing	83
Increased muscle tone	82
Frantic sucking of fists	79
Regurgitation	74
Sleeps less than 3 hours after feeding	65
Sleeps less than 2 hours after feeding	66
Sleeps less than 1 hour after feeding	58
Respiratory rate greater than 60/minute	66
Poor feeding	65
Hyperactive Moro reflex	62
Loose stools	51
Less common symptoms	
Sweating	49
Excoriation	43
Mottling	33
Nasal stuffiness	33
Frequent yawning	30
Fever less than 101 degrees F	29
Respiratory rate greater than 60/minute and retractions	28
Markedly hyperactive Moro reflex	15
Projectile vomiting	12
Watery stools	12
Fever higher than 101 degrees F	3
Dehydration	1
Generalized convulsions	1

Finnegan, L. P. The effects of psychoactive drugs (including opiates) on the fetus and newborn. In Research Advances (Vol. 5), Kalant, O. (Ed.), Plenum Publishing Co. New York, 1979, in press.

TABLE 6.—WITHDRAWAL SYMPTOMATOLOGY IN 260 INFANTS OF DRUG DEPENDENT MOTHERS

[Groups 1, 2, 3; in percent]

Groups	No withdrawal	Mild withdrawal	Moderate withdrawal	Severe withdrawal	Tota withdrawa
1, N=60 [1]	5.0	36.7	33.3	25.0	94.9
2, N=72 [2]	6.9	38.9	41.7	12.5	93.1
3, N=128 [3]	9.4	24.2	53.9	12.5	90.9

[1] Heroin dependent; no prenatal care (average dose 6 bags per day).
[2] Methadone dependent; average daily dose 32 mg.; average prenatal visits 1.8.
[3] Methadone dependent; average daily dose 38 mg.; average prenatal visits 8.2.

Source: Connaughton, J. F., Reeser, D. S., Schut, J., Finnegan, L. P. Management of the pregnant opiate addict: Success with a comprehensive approach. American Journal of Obstetics and Gynecology, 129:679, 1977.

TABLE 7.—SUCKING MEASURES FOR ADDICTED AND CONTROL GROUPS

	Addicts		Controls	
	Methadone (N=32)	Heroin (N=18)	Toxemia (N=10)	Normal (N=10)
Sucking rate, sucks per minute	[1] 18.3±2.1	26.2±3.2	32.2±3.9	39.6±4.6

[1] Mean over 6 trial feedings ± SE, two 10 minute trials per day for 3 days performed just prior to the 10 a.m. and 2 p.m routine nursery feedings beginning at 24–36 hr of age.

Finnegan, L. P. Clinical effects of pharmacologic agents on pregnancy, the fetus, and the neonate. Annals of the New York Academy of Sciences 281:74–89, 1976.

TABLE 8.—EFFECT OF DIFFERENT DETOXICANTS ON SUCKING BEHAVIOR

	Paregoric (N=5)	Phenobarbital (N=28)	Valium (N=6)	Nothing (N=8)
Sucking rate, sucks per minute	[1] 30.5±3.0	19.4±2.3	13.4±7.2	23.2±4

[1] Mean over 6 trial feedings ± SD.

Finnegan, L. P. Clinical effects of pharmacologic agents on pregnancy, the fetus, and the neonate. Annals of the New York Academy of Sciences 281:74–89, 1976.

TABLE 9.— RESULTS OF WESCHLER PRESCHOOL AND PRIMARY SCALE OF INTELLIGENCE

	Children of methadone dependent women (N=10)		Control children (N=12)	
	Mean	Standard deviation	Mean	Standard deviation
Verbal scale	94.44	11.32	97.75	20.78
Performance scale	86.11	12.81	88.25	13.76
Full scale IQ	89.33	12.97	92.66	18.05

Kaltenbach, K., Graziani, L. J., Finnegan, L. P. Development of children born to women who received methadone during pregnancy. Pediatric Research 12:372, 49a, 1978.

TABLE 10.—RESULTS OF PERCEPTION AND LANGUAGE ASSESSMENT

	Children of methadone dependent women			Control children		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Imitation of gestures	9	13.77	2.48	13	12.76	4.14
Test of language development	7	81.00	6.16	11	81.81	6.96
Motor-free visual perception test	6	83.33	11.23	10	82.50	10.55

Kaltenbach, K., Graziani, L. J., Finnegan, L. P. Development of children born to women who received methadone during pregnancy. Pediatric Research 12:372, 49a, 1978.

TABLE 11.—OBSTETRICAL COMPLICATIONS BY GROUPS, 261 FAMILY CENTER PATIENTS AND 150 CONTROLS PHILADELPHIA GENERAL HOSPITAL, 1969–74

Groups	Number of patients	Average number of prenatal visits	Obstetrical complications percent	Incidence of low birth weight percent
A	62	0	34	47
B	77	2	20	39
C	122	8	24	21
D[1]	75	0	28	20
E[2]	75	9	25	16

[1] Nonclinic control.
[2] Clinic control.

Finnegan, L. P. Narcotic dependence in pregnancy. Journal of Psychedelic Drugs 7:299, 1975.

[In: Handbook on Drug Abuse, Dupoint, R. L. Goldstein, A., and O'Donnell, J. (eds). U.S. Government Printing Office, Washington, D.C., January 1979]

10. Women in Treatment

(By Loretta P. Finnegan, M.D.)

INTRODUCTION

Psychotropic drug use, misuse, and abuse of substances including narcotics, depressants, stimulants, hallucinogens (including cannabis), and alcohol have become a burgeoning problem in the United States over the past decade. Although narcotic abuse, particularly of heroin, initially appeared to be the greatest problem, we are currently aware of large numbers of emotionally distraught individuals who are in need of psychotropic medications which are procured through licit as well as illicit sources. Of great concern is the fact that one in four narcotic addicts and one in two alcoholics and barbiturate users are women. The vast majority of women who abuse drugs are of childbearing age (between 15 and 40 years of age), and the implications are profound. It appears drug abuse has increased and had an effect not only on this generation of adult women, but also on future generations to which they give birth. Unfortunately, a general complacency exists with regard to licit psychotropic medications and the extent of drug use during pregnancy, with its concomitant effects on the fetus and neonate. Nevertheless, the prevalence and sequelae of both licit and illicit psychotropic drug use in women in general, as well as those who are pregnant, indicate that the phenomenon represents a significant problem which must be recognized and addressed by health care delivery systems which attempt to provide optimal medical, psychological, and social care.

Extensive information is available in the literature in regard to both research and clinical experiences, indicating that illicit drug abuse by women leads to problems in female physiological functioning, poor pregnancy outcomes, and inadequacies in fulfilling the parental role. Initially, it was thought that, compared to men, only a few women were addicted, and that few women actually entered available treatment facilities; therefore, types of treatments available for women and issues of effective treatment have not been addressed or examined. Women were described as more pathological, more self-destructive, and harder to work with than men. Unfortunately, these views resulted from anecdotal information or clinical impressions often based on very few cases which were fraught with cultural bias and poor methodology. Only recently have persistent questions been raised about sex-related measurement biases or methodological problems and research designs, the persuasiveness of male-oriented program philosophies and treatment methods, the dynamics within treatment programs as they affect women, and the development of apporpriate treatment and post-treatment methods, interventions, and goals for women.

This paper will review the recent trends of drug use. misuse, and abuse by women in the United States, the prevalence of various kinds of drug use/abuse in women, and the negative consequences in terms of health and social well-being. In addition, views of the medical community concerning needs of women drug abusers in regard to identification, rehabilitation, education, and treatment issues will be considered. The paper is based on a review of current manuscripts in the literature, as well as several large reports recently prepared for the National Institute on Drug Abuse by the Women's Drug Research Coordinating Project of the Wayne County Department of Substance Abuses Services and the University of Michigan; Burt Associates, Incorporated in Bethesda, Maryland; and a manual, recently published for medical professionals and paraprofessionals, addressing the issues of drug dependence in pregnancy and methods of management of the mother and child. In addition, research data from the author's program have been included.

PREVALENCE OF PSYCHOTROPIC DRUG USE AMONG WOMEN

The prevalence of psychotropic drug use among women has always been higher than among men, approximately two times more for each class of psychotropic drug and for any given psychotropic agent. Cooperstock (1971) has described a model of sex differences in mood-modifying drug use for a nonhospitalized population. The drugs selected for study were psychotropic agents that included antidepressant drugs, both major and minor tranquilizers, respiratory and cerebral stimulants, sedatives, and hypnotic drugs—primarily barbiturates. Narcotics were not included. The increased incidence of drug use by women in this model has been ascribed to the following factors: (1) Society permits women greater freedom than men in expressing feelings. (2) Women are more likely than men to perceive emotional problems in themselves. Men define their problems in functional rather than emotional terms, for example, work-related difficulties, sleep difficulties. (3) Women are more likely than men to bring their emotional difficulties to the attention of the physician, whether a general practitioner or a psychiatrist. (4) Physicians, as members of the larger society, expect women to be more expressive in their behavior. (5) Physicians would expect women to need mood-modifying drugs to a greater extent than men. Other views include the fact that currently there are excessive demands on female social roles, and that women use alternative substances, such as alcohol, less than men in coping with emotional stress.

As reported by Finnegan (1978), a study of regular users of nonopiate drugs, excluding marihuana, conducted by the New York State Drug Abuse Control Commission in 1970 revealed: (1) Those using legal drugs obtained without legal prescriptions were approximately 10 times as numerous as those using licit narcotics. (2) About 45 percent of the nonopiate users were less than 35 years of age, with women comprising 60 to 65 percent of the entire nonopiate-using population.

The majority of women abusing drugs are of child-bearing age and although data concerning the effects of pharmacologic agents administered during pregnancy have been available for a long time, the seriousness of their significance in the obstetrical patient does not appear to be fully appreciated. Despite recent advances in the area of fetal and neonatal pharmacology, many physicians continue to prescribe drugs to the pregnant woman without considering the potential untoward effects upon the fetus. Also, with the increase of narcotic addiction in the United States over the past decade, the country has been plagued with the resultant birth of a large number of infants who have been exposed to the prenatal stress of illicit drug usage.

In addition to physician-prescribed drugs and those utilized by the drug-dependent individual, the vast majority of pharmacologic agents used in pregnancy are those that are self-prescribed by the obstetrical patient. A retrospective review of 911 randomly selected mothers found that 82 percent of the women had been taking prescribed medications during pregnancy, excluding iron supplements. The average number of prescribed drugs per woman was four, with additional self-medication reported by 65 percent of the women. The most frequent reason for drug consumption was the relief of anxiety or analgesia (Forfar and Nelson 1973).

Increasing attention is being focused upon infants born to narcotic-dependent mothers, with specific emphasis being placed upon women maintained on methadone. This concern is appropriate in view of the large number of persons currently enrolled in methadone programs in the United States. The literature reporting

the effects of methadone on the neonate has been quite controversial, showing considerable disagreement among various investigators. The scope of difference is wide, stemming from statements that methadone is relatively innocuous to the neonate, to those stating that methadone causes serious abstinence symptoms and an increasing incidence of sudden infant death syndrome. Unfortunately, accurate conclusions from these studies are extremely difficult to make due to the small, poorly delineated populations utilized and the absence of adequate control groups. Furthermore, there is a need to delineate and define the effects of continued multiple drug abuse with methadone maintenance, as compared to controlled methadone maintenance in conjunction with psychosocial and medical support.

Over the last few years multiple drug use has become more frequent, especially of those agents in the alcohol-tranquilizing groups in combination with other drugs. Statistics obtained from the Drug Abuse Warning Network, established by the Drug Enforcement Agency and the National Institute on Drug Abuse, indicate a current increase in drug abuse in women, and, moreover, there is evidence that it unfortunately has spread into the adolescent years.

Uniqueness of Drug-Abusing Women in Comparison to Drug-Abusing Men

Most of the published information available on heroin addiction describes male addicts. The special problems of female addicts have been given relatively little attention over the years, and this fact may account for the common assertion that women are considerably less amenable to treatment than men. It is of great concern to those in the drug abuse field that there is a need for increased knowledge and understanding of female drug abusers. With this increased knowledge and understanding, there should be a positive impact on the treatment available to them.

Eldred and Washington (1975) developed a profile of female addicts upon admission to a city-run treatment program in Washington, D.C., and compared them to their male cohort. They were likely to be unemployed and receiving no financial assistance; to have children who may or may not be living with them; to be currently unmarried; to want no more children in the immediate future, yet to fail to practice contraception consistently. The women were responsible for significantly more children than the men, so that efforts toward rehabilitation were complex as they strove to meet the needs of their children while attempting to achieve economic self-sufficiency and give up drugs. The parent role requires a considerable investment of psychic energy plus the practical component of actual time and energy in child care responsibilities at a time when the woman's own self-development may require maximum concentration.

The Women's Drug Research Project (WDR) (Reed et al. 1977) has systematically explored the psychiatric and social-problem approaches to understanding female addiction. Due to a confluence of health, economic, social, and psychological factors as described thus far, addicted women, when compared to their nonaddicted counterparts, appeared to be lower in self-esteem, higher in reported symptoms of depression and anxiety, more open to the development of relationships, lower in masculinity and feminity, and higher in assertiveness. These factors may, in fact, be assets in treatment situations, since these women may be more open to drastic change given the proper combination of facilities, program design, and staff attitudes.

A summary of observations of female drug use by Suffett and Brotman (1976) reveals that for purposes of coping with stress, men tend to use alcohol; women tend to use pills. Females are more likely than males to have first tried heroin for relief of personal disturbances. Females are also more likely than males to give this as reason for failure of the first attempt at withdrawal. Among regular users of illegal drugs, a large proportion are males; among regular users of psychotherapeutics, the larger proportion are females. In general, maladjustments to sex-role norms and expectations show a higher association with subsequent drug dependence among women than among men. Differences in patterns of substance abuse among men and women seem to center around the higher prevalance of abuse of sedatives, hypnotics, barbiturates, or amphetamines among women.

It appears probable that the use of recreational drugs by women will increase, assuming that this type of drug use is closely tied to a more liberated lifestyle. It is reasonable to predict that as women assert their right to greater freedom in their private lives, a larger proportion of them will use marihuana and other drugs. As women rebel against the double standards which deny them certain personal freedoms granted to men, a greater parity in rates of male and female

drug use, especially among teenagers and young adults, should be seen. If women achieve social equality and alleviate the strains associated with their sex role, the rate of pill use may decrease. As women gain equality in occupational situations, they may be subject to the same pressures now experienced by men in regard to career mobility, job responsibilities, dislocations, and uncertainties in the employment market. Having attained the same job satisfactions and similar tensions and anxieties, women may change from their psychotropic pill use to a predominant pattern of alcohol use, as is seen in men.

Aside from social and psychological uniqueness of the female, one should consider the pharmacologic aspects when comparing drug abuse in men and women. While females generally respond to drugs in a manner similar to males, there are important differences which are only beginning to be understood. Studies in animals have shown that females metabolize some drugs more slowly than males, and thus exhibit more intense and longer-lasting effects than males; this gender difference does not appear to be important in humans, primarily because other individual differences in rates of drug metabolism obscure the sex-related effect (Finnegan 1978). Pregnancy, though, involves many physiologic changes, including an increase in renal function and changes in blood flow to various organs. There is increasing evidence that drug elimination is altered during pregnancy, but there is no general trend in this effect. Consequently, the development of pregnancy in women being treated with drugs requires a close evaluation of the appropriateness of a given drug and the dosage regimen. In addition to the potential congenital abnormalities associated with drug ingestion throughout pregnancy, there are the potential effects on the subsequent development of the infant in its postnatal behavioral and intellectual performance (Kron et al. 1976; Strauss et al. 1976).

When considering the effects of drugs on the fetus, one must consider the transplacental passage. This becomes critical in the case of psychoactive drug use. It is a commonly held misconception that the placenta protects the fetus from maternally ingested drugs by preventing their transport to the fetus. Any drug which has psychopharmacologic effects will easily cross the placenta. Repeated use of a psychoactive drug by a pregnant woman will result in accumulation of that drug in the fetus to levels that are at least as high as those achieved in the mother and may cause fetal toxicity.

In regard to fetal toxicity, the type and severity of adverse effects of a given drug on the fetus depend on a multitude of factors, including the size and frequency of the dose, the route of administration, the state of pregnancy, maternal health and nutritional status, genetic makeup of the mother and fetus, previous obstetrical history, and a myriad of environmental factors, including concomitant exposure to other drugs, smoking status, and perhaps even environmental pollutants. These factors are important throughout pregnancy, for even after the completion of organ and skeletal development, when the fetus is no longer susceptible to gross anatomical defects, it remains vulnerable to growth retardation and a variety of functional and behavioral abnormalities.

There is some concern that either continuous or intermittent use of depressant drugs may be associated with mental deficiency in the infant. While there is little direct evidence for this, it is known that prolonged cessation of breathing in the first few minutes after delivery is associated with behavioral problems and intellectual deficiencies, a relationship which causes obstetricians to be conservative with the use of depressants in the perinatal period. The opioid drugs are depressants of breathing in infants as well as in adults, and morphine appears to be particularly effective in depressing breathing in the neonate. A possible explanation for this is that the newborn has an immature blood-brain barrier for drugs, which later matures to impede the passage of water-soluble drugs into the brain. Thus, when morphine, a relatively water-soluble opioid, is given to a mother, it will achieve a higher level in the fetal brain than in the maternal brain. This differential brain permeability appears to be less important for more fat soluble opioids such as meperidine hydrochloride and methadone. The fact that infants of mothers who are chronic users of narcotics do not have an unusually high incidence of respiratory depression at birth is probably related to the development of tolerance in the drug-dependent fetus.

The distribution and effects of diazepam in the maternal-fetal unit and neonate have been studied in women who were given this drug during pregnancy for a variety of indications, and who were neither dependent upon narcotics nor abusing other drugs. Diazepam transfers across the placenta both in early and late pregnancy and accumulates in fetal tissues in high enough concentrations to sustain pharmacological action for at least 8 to 10 days after birth. Symptoms in the

neonate as a result of passive abstinence may include lethargy, respiratory difficulties including apneic spells, disturbances in thern oregulation, hypotonia, and failure to suck effectively (Finnegan 1978; Kron et al. 1976).

Studies of the effects of barbiturates on the human maternal-fetal unit and neonate have similarly shown that infants born of mothers receiving chronic barbiturate treatment or abusing barbiturates during pregnancy may have perinatal symptoms of withdrawal.

Alcohol abuse is a major problem both in heroin addicts and methadone maintenance patients, and alcoholics commonly abuse other drugs. Alcoholic beverages contain many chemicals (congeners and aldehydes) in addition to ethanol. Little is known about the disposition of alcohol in the human maternal-fetal unit or about the possibility of more subtle effects on chronic alcohol abuse on the fetus and neonate. Some infants born to women who are heavy drinkers have been described as having a pattern of abnormal features termed the "fetal alcohol syndrome" (Jones and Smith 1975). This syndrome consists of abnormalities of the face, microcephaly, low I.Q., and prenatal and postnatal growth retardation. While these deviations would not generally be considered under the category of congenital defects, they are nevertheless suggestive of adverse fetal outcome in pregnant alcoholics and prompt concern for other covert abnormalities.

Smoking is almost universal among heroin addicts and methadone maintenance patients. Several studies have suggested that chronic smoking is associated with intrauterine growth retardation (Davies et al. 1976; Miller et al. 1976).

In addition to heroin, methadone, barbiturates, and diazepam, those drugs that have been reported to cause abstinence in newborns include: pentazocine hydrochloride, ethchlorvynol, chlordiazepoxide, imipramine, diphenhydramine hydrochloride, and propoxyphene hydrochloride. The benefits of the drug which is given to the pregnant female must be carefully weighed before the fetus is subjected to the many risks encountered with pharmacologic agents. In the case of the pregnant woman who uses illicit drugs, her situation, as well as that of the unborn fetus, can pose overwhelming problems which must be dealt with in order to provide an improved outcome for both mother and child (Finnegan 1976).

Recommendations for the Medical and Psychosocial Management of Drug-Abusing Women

Drug abuse programs are typically evaluated by their success in decreasing illegal drug-taking behavior, decreasing criminality, and increasing social productivity. The Women's Drug Research Coordinating Project (Reed et al. 1977) has taken the position that the definition of social productivity, the process of addiction, and the social roles and relationships that can either support or inhibit change efforts are all different for men and women. Women must learn to handle those factors that predispose them to an addiction career and supported escalation of it. They must examine the social forces that help maintain the addiction and learn to strengthen those that support terminating it, and they must develop a viable alternative career for themselves and be prepared to handle the continued stigma of being an ex-addict. The WDR Project has summarized the differences that are likely to exist between men and women addicts, and the tasks and issues they pose for intervention programs concerned about women. The following have been proposed:

1. *Women are socialized differently.* In general, women have fewer skills in, and less comfort with, anger, competition, and aggression. Their self-esteem and identity derive more from others' perceptions of them (especially males'). As a result they are more aware of, and sensitive to, interpersonal cues and relationships, and more likely to need and use a support network of relationships.

2. *Women's status in this society is generally derived from men.* Usually, actual material and financial support, and physical protection are dependent on men. The women addict is often introduced to drugs by a man, uses drugs with men, and supports her drug habit in partnership with a man. Relationships with other women are less valued and often competitive in nature.

3. *Women who commit deviant behaviors are more socially stigmatized than men.* Since sex-role identity is a key to a person's identity, the woman involved in a deviant career may experience significant conflict in her definition of femininity as a result of this deviance. She is also likely to experience considerably more negative reactions and rejections as a result of her deviant behavior, and to the degree that she has internalized society's view of her behavior, may experience considerably lower levels of self-esteem than the addicted male.

4. *Women are expected to play more key family roles.* In addition to whatever marketplace role the woman may choose to assume, she is still expected to place equal (or more important) emphasis on family roles—homemaking, childrearing, etc.

5. *Women typically are given most responsibility for birth control and parenthood.* They must bear the child when birth control is not practiced or fails, and are seen as more responsibile for caretaking and for any problems with the child after it arrives.

6. *Women have more medical problems, and are perceived differently when they complain about these problems.* Because of the many medical problems seen in women, it is important to have special services for them, especially in the area of gynecological problems and dental care. The special needs of pregnant women will be described in subsequent sections.

7. *Women have fewer and less lucrative vocational options than men* and often more family responsibilities that make giving up some of the benefits of public assistance impossible or very difficult.

8. *Women are differentially perceived and responded to by the criminal justice system.* They may be arrested and convicted less often, but are more often psychologically harassed and have fewer treatment and rehabilitation options once arrested.

9. *Women addicts have often been sexually abused.* Even those who have not chosen to support their habits by prostitution have often suffered considerable sexual and physical abuse.

Suggestions by the WDR Project (Reed et al. 1977) used by some programs in trying to develop better services for their women include:

1. *Programs to identify and work on sexism in female and male clients and staff.* The way staff members behave toward each other will have important ramifications in how clients view acceptable male-female interaction.

2. *Programs to develop new intervention techniques* that build on women's strengths and give them new skills and special supports in areas of conflict. These techniques may include assertiveness training, behavioral modifications, and special issue-oriented groups.

3. *Programs to recognize the nature of the women's relationship with the man in her life,* and if it is destructive, help her change it or find alternatives. Concurrently, programs need to help women develop relationships with other women and recognize their commonalities with other women. To accomplish these things, women's groups and development of family-oriented intervention are among the alternatives.

4. *Programs to develop and provide special education and training programs* in areas of jobs, birth control and family planning, health and hygiene, and nutrition.

5. *Programs to provide necessary and usually omitted services for women.* Provision of child-care facilities would make treatment services more accessible. Training in child development and effective parenting would increase confidence. Also, programs need to provide active advocacy in developing alternative jobs for their clients. Another key area is health. Women are too often dependent on impersonal health systems for treatment and have too little knowledge about their own bodies or how to receive effective services.

6. *Programs to assist women in meeting basic survival needs.* Especially if a woman must break some of her basic dependency relationships in order to give up her addiction career, she may be in dire need of a wide variety of services to assist in obtaining food, clothing, lodging, minimal medical care, keeping out of jail, refraining from abusing a child, etc. Many of these needs do not need intrapsychic intervention, but require basic skill training in where resources are in this society and how to get them.

7. *Programs that do not ignore the addiction.* Ironically, programs that have been most concerned about the roles and problems of women have tended to be less concerned about what makes these women different: the addiction. While many programs focus too much on the drug, addiction is a very real physiological and psychological process. The women must learn about the effects of the drug on her body, the forces that began and supported her drug use, and the difficulties of giving up the drug and finding alternatives.

8. *Programs that periodically examine their own environment, structure and procedures* to be sure they are not inhibiting the very changes they are trying to promote. This can be a very subtle process, and the use of outside consultation is recommended, especially during any major transitions.

An additional view is presented by Santo (1977) in a comparison of substance abuse by men and women at the Polydrug Research Center of the Philadelphia

Psychiatric Center. The major diagnostic implication of his study was that the genesis and maintenance of drug abuse behavior in the female is intricately related to the family process. His study has shown the importance of the family of origin as the prime socializing agency. Families use medicine at home, often indiscriminately, sometimes destructively. The educational impact of the family's use of the home medicine cabinet is an issue that needs greater emphasis in the planning of drug education programs in the schools. These programs have been concerned almost exclusively with those patterns of drug use which are transmitted in peer group interaction, and have neglected problematic behaviors which evolve within the family.

Various systems of family and marital therapy have focused on the influence of family dynamics on individual behavior. The findings of Santo suggest that this is of particular importance to the women, in that therapeutic intervention in these modes might prove more effective in changing drug abuse behavior than the traditional intrapsychically oriented methods of treatment. Group therapy with women is another treatment approach whose relevance in this regard has not been sufficiently investigated.

Features of a program for "client-mothers" might include halfway houses where female clients and their children could, for a time, live apart from other heroin users with whom they may be intimately involved while they gain the strength to return to their old environment or seek a new one. Such a facility might also provide a setting where mothers could receive instruction and practice in physical and behavioral aspects of child care and learn the skills necessary for caring for themselves in their homes, such as nutrition, budgeting, and simple home repairs. They might also be helped in exploring their feelings about having additional children, so that future parenthood would be based on choice rather than chance. Clients should be made aware of the possible negative effects of heroin or methadone use during pregnancy, and pregnant clients should be provided with the psychological support to get through their pregnancies with a minimum of drug use (Eldred et al. 1974).

It should be stressed that programs for addicted parents should include fathers as well as mothers, if they express an interest. Greater participation in family life and increased responsibility for their children may be regarded as rehabilitative goals for all addicted parents.

THE EFFECTS OF DRUG ABUSE ON THE HEALTH OF WOMEN

In addition to the economic, social, and psychological stresses of drug addiction, the female addict generally has poor health, for in her pursuit to obtain drugs, she neglects her health and her nutrition. Health conditions which would normally be minor in nonaddicted individuals are often not treated in the addicted woman, and therefore progress to major life-threatening conditions. One of the most frequent problems is the presence of gynecological infections, frequently caused by venereal diseases, such as condyloma acuminatum, gonorrhea, herpes progenitalis, and syphilis. Hepatitis accounts for another 4 percent of the infections found in the female addict and is generally Type B due to transmission of infection through the parenteral route. The use of unsterile needles, which are sometimes shared among friends, makes this population extremely vulnerable to this complication. The incidence of tetanus resulting from the repeated injection of drugs subcutaneously (skin-popping) is twice as common in female addicts as in nonaddicted females, and death rates are high.

Sixty to ninety percent of women dependent upon heroin have menstrual abnormalities, with amenorrhea the most frequently reported. Polydrug abuse may also accentuate menstrual irregularities. Other contributory factors found frequently in the narcotic addict are malnutrition, hepatitis, pelvic infection, and other physical illnesses, as well as the stress of the unstable social, economic, emotional environment in which the woman is involved. Dysmenorrhea (menstrual cramps) is increased during addiction and withdrawal. The cause may be secondary to pelvic infection. Amphetamines have been shown to cause an increased frequency of uterine irritability, resulting in dysmenorrhea and premature labor.

Women taking legally prescribed narcotics for underlying medical conditions and those enrolled in methadone maintenance programs usually do not have difficulty with their menstrual cycles. Similarly, discontinuation of illicit heroin with subsequent abstinence is associated with menstrual regularity in 57 to 88 percent of women. Eighty to ninety-three percent of women on chronic high-dose methadone maintenance treatment have reported a return of normal menstrual cycles during the first 6 to 12 months of treatment. In a few patients, up to 2 years

were required for menses to return to normal. During methadone maintenance treatment, contraception therefore becomes necessary to avoid unwanted pregnancies, and when a pregnancy is desired, it seems to be feasible in patients whose menstrual cycles have returned to normal (Finnegan 1978).

Fertility is difficult to assess in any population and especially in heroin addicts, since proper prospective studies cannot be carried out. Since sexual activity has been reported to be very high, it is the impression of many observers that fertility is diminished. Studies have shown that 61 percent of active heroin users were infertile, based on the fact that of 100 former heroin addicts interviewed, all of whom had frequent sexual exposure without contraceptives while addicted to heroin, only 39 became pregnant for a total of 77 pregnancies while using heroin. The remaining 61 women never became pregnant while using heroin. The incidence of infertility is estimated to be around 13 percent in nonaddicted women (Finnegan 1978).

It must be emphasized, however, that although anovulatory cycles are frequent, if appropriate precautions are not taken, pregnancy may indeed occur. Studies in various cities have reported addicted women to comprise approximately 1 out of 12 deliveries. The need for family planning and dissemination of birth control information is therefore apparent.

Once a narcotic addict becomes pregnant, the course of the pregnancy may not be smooth. Increasing numbers of pregnant addicts have presented themselves to medical facilities, but the exact magnitude of narcotic dependency in pregnancy is difficult to determine because statistics are generally based only on women who come to hospitals or clinics for delivery. However, it is suspected that a considerable number of pregnant addicts may self-deliver or may be delivered at home without a physician in attendance. The majority of addicted women do not seek prenatal care, and therefore, nearly 70 percent arrive in the hospital after the onset of labor, having had no medical care during pregnancy. Therefore, clinical management of these patients is difficult because of obstetrical and medical complications which generally result from their tendencies to neglect general health care and to avoid seeking prenatal care throughout pregnancy. Obstetrical complications associated with heroin addiction include: spontaneous abortion, abruptio placenta, amnionitis, breech presentation, emergency Cesarean section for fetal distress, chorioamnionitis, preeclampsia, eclampsia, intrauterine death, gestational diabetes, placental insufficiency, postpartum hemorrhage, premature labor, premature rupture of the membranes, and septic thrombophlebitis. During the postpartum period, withdrawal symptoms are hard to differentiate from endometritis (Finnegan and MacNew 1974). Social and emotional problems, such as poor housing, inadequate income, lack of education, and feelings of worthlessness and depression, add to the overall difficulties presented to the pregnant addict.

One cannot discuss the effect of drug abuse on the health of women without describing the medical problems of their offspring. It has already been described that these women tend to have an increased incidence of premature labor and, therefore, the birth of an extremely small infant. The incidence of low birth weight in infants of nontreated heroin-addicted women approaches 50 percent, in comparison to the national incidence which is between 8 and 10 percent. The concomitant increase in morbidity and mortality among these premature infants results in increased incidences of respiratory distress syndrome. asphyxia neonatorum, meconium aspiration, intracranial hemorrhage, hypoglycemis, hypocalcemia, hyperbilirubinemia, anemia, and infection. The majority of deaths among newborn infants, as well as increased incidence of cerebral palsy, mental deficiency, lethal malformations, emotional disturbances, social maladjustments, and visual and hearing deficits, are associated with low birth weight (Finnegan 1976).

In addition to having an increased incidence of premature birth, these women have a greater chance of having intrauterine fetal growth retardation. Their infants, who are undergrown for gestational age, have an increased incidence of asphyxia, aspiration pneumonia, hypocalcemia, and hypoglycemia; about one-third of these have postnatal growth retardation and neurological sequelae (Finnegan 1976).

Some programs have been able to improve the outcome for infants born to drug-abusing mothers (Strauss et al. 1974; Connaughton et al. 1977; Finnegan et al. 1977a). In Philadelphia, a study of three groups of drug-abusing mothers has shown that with the use of methadone maintenance and comprehensive care, the outcome for the infant can be improved (Connaughton et al. 1977). Two groups of methadone-maintained mothers, one with inadequate and the other with adequate prenatal care, were compared to heroin-dependent women with no care.

These results demonstrated that maintenance of a drug-dependent woman on methadone under close supervision, with adequate prenatal care, is compatible with an uneventful pregnancy and birth of a healthy infant whose withdrawal symptoms in the neonatal period are readily controllable. The objective of methadone administration during pregnancy should not be to prevent withdrawal in the newborn; but rather, to decrease the incidence of maternal and fetal complications occurring during illicit heroin use. The duration of methadone maintenance should reflect the patient's own desires as well as consideration of her drug addiction history.

In summary, when a woman uses illicit drugs, the incidence of medical and social problems is extremely high. Many of the medical illnesses can either become chronic or life-threatening due to the lack of attention to them at their onset. When a woman becomes pregnant and uses illicit drugs, the situation for her as well as the unborn fetus can be overwhelming for the clinician. If he is aware of the numerous medical and obstetrical complications seen in these women, as well as the untoward effects expected in the newborn, the problem can be dealt with so that some of the effects of the prenatal stresses encountered when illicit drugs are used can be altered. This is, of course, only if the woman presents herself to a medical facility early in pregnancy (Finnegan 1976).

RECOMMENDATIONS FOR PREGNANT DRUG-ABUSING WOMEN

The pregnant woman who abuses drugs must be designated as high-risk and warrants specialized care, including addictive and obstetrical management. and psychosocial counselling. The following recommendations have been suggested in several sources (Connaughton et al. 1977; Finnegan 1975; Finnegan et al. 1977b):

1. Addictive care may involve voluntary drug-free therapeutic communities, methadone detoxification, or methadone maintenance. Various advantages and disadvantages have been described in regard to some of these options. Although admission to a methadone maintenance program requires initial hospitalization for substitution of the heroin habit by methadone, the patient can be stabilized on a daily controlled dose of the drug. Advantages include: (a) better participation in prenatal care, (b) shorter hospital stay for the newborn; (c) improved attention by the mother to her health care needs and those of her child; (d) creation of a more stable social environment for both the mother and the infant; and (e) the ability to follow these mothers and infants on a long-term basis in order to evaluate outcome.

It should be made clear that methadone was never described as a panacea, since the only claim that had been made originally was that this chemical agent could relieve the compulsive drive for illicit narcotics in the addicted individual. In addition, it should be remembered that in order to give the addict hope and self-respect, human warmth is required. For her to become a productive citizen, she needs the effective support of persons who can help her find a job and protect her from discrimination. The use of methadone, therefore, can only be an adjunct in what should be a comprehensive approach to the treatment of addiction. Fortunately for the pregnant, opiate-dependent woman, the majority of programs in recent years have used methadone only in this fashion, which probably accounts for the successes found in these programs.

Therefore, the pregnant, drug-dependent woman should be evaluated in a hospital setting where a complete history and physical examination may be accomplished and certain laboratory tests carried out to evaluate her overall health status. When appropriate, low-dose methadone maintenance with substantial medical and paramedical support should be instituted. Detoxification, if requested or necessary, should take place preferably between the 14th to the 28th week of gestation and should be accomplished very slowly (for example, 5 mg reductions every 2 weeks). The pregnant woman addicted to barbiturates or major tranquilizers along with opiates should be detoxified during her second trimester in a very specialized detoxification center.

2. Because of the prenatal medical and obstetrical complications inherent in drug-abusing mothers, it is important to consider the infants born to these women as high-risk. They should be admitted to an intensive care nursery where they are carefully observed, and where personnel make use of an abstinence scoring system so that infants may be treated appropriately. Mothers should be permitted to visit their newborns frequently in the neonatal nurseries and be able to hold and feed them, even if they are undergoing abstinence and being treated. All

program staff should be involved in encouraging maternal-infant attachment, not only prenatally, but in the immediate postpartum period. In the prenatal period, educational classes should be held to discuss the care of the newborn, as well as relevant behaviors that the mother will observe (Finnegan et al. 1975).

3. Psychological counseling should be given by an experienced social worker who is aware of the medical needs as well as the social and psychological needs of this population.

4. Social and medical support should not end in the hospital setting, but an outreach program incorporating public health nurses and community workers should be established.

5. The mother's parenting skills should be assessed so that one can ascertain her ability to care for the infant after discharge from the hospital.

6. Mechanisms by which to follow and supervise the infant's course after discharge from the hospital should be established. It is extremely important to have public health nurses and community workers go into the home to assist the mother in the care of the infant, as well as to pick up beginning signs of child abuse or neglect.

RESEARCH IMPLICATIONS

It appears obvious from the multiple problems seen in drug-abusing women in regard to their medical and social needs, as well as specific treatment goals for their addiction, that research in this area is truly in its infancy. Basic research in the areas of prevention, identification, rehabilitation, and treatment, as well as education in regard to drug-abusing women in general, as well as those that are pregnant, is badly needed. The research should include excellent methodology, with appropriate control groups, but exclude value-based interpretations and small or nonrepresentative samples. When sex differences are studied, one should not discount race and socioeconomic class. Longitudinal analysis could be performed to examine the experiences of socially supported and socially isolated women in treatment. Comparisons should be made between supportive and nonsupportive treatment environments to examine the experiences of women in supportive versus nonsupportive treatment centers. Model programs such as those designed by the Women's Drug Research Project and those specializing in the pregnant drug-abusing woman should be developed in various cities, not only so that treatment needs of women may be met, but in order to study the effectiveness and the long-term outcome of such specifically designed programs for women.

There is an urgent need for the collection of systematic data on issues concerning pregnancy and addiction. It is important to identify and obtain the cooperation of several programs that treat pregnant addicts in order to develop a consistent data collection form and further evaluate the effect of comprehensive care on the pregnancy, as well as on the neonate and child. The data should be collected and analyzed to determine the relationships among the wide range of variables of interests and outcomes for the mother and the child.

The following research questions could be addressed through pilot projects or groups of projects with special services emphases (Bowder 1977):

1. Do children who experience early extended contact with their addicted mothers during the neonatal period, and whose families are provided comprehensive followup services in their formative years, show less developmental problems than their peers who do not receive these services?

2. Is the provision of parent education to drug-abusing parents soon after the child's birth and throughout early childhood related to positive cognitive and social development among their children?

3. If children of drug-abusing parents are enrolled in enriched preschool programs, do they show greater cognitive gains and better socioemotional adjustment than matched peers who have not been enrolled in these programs?

4. Do children who are abused or neglected by their drug-abusing parents show "normal" development if placed from early infancy for adoption or in stable foster care?

5. Do older children of drug-abusing parents who receive services within a coordinated network of community agencies (providing for medical, social, educational, nutritional, and other needs) have less social, psychological, behavioral, and learning disabilities than their same-age peers who live with drug-abusing parents who do not receive these services?

The above questions contain many complexities that would require carefully designed studies (including well-matched control groups). Ideally, the research would be longitudinal; data collected periodically could provide program planners with useful interim data which could assist them in planning resource allocations

for future efforts. In the interim, too, many children and parents would be provided needed services.

Additional suggestions for further research in regard to pregnant addicts include:

1. Study the effects of heroin and methadone use on the pregnant addict's lifestyle, and collect socially and medically related data.
2. Investigate new treatment modalities for the drug-dependent mother to include the safety of the various methadone maintenance dosage regimens for the fetus.
3. Study the dietary habits and nutritional status of the pregnant addict and compare results with control groups of nonaddicted parents.
4. Further justify the therapeutic modalities currently being utilized for the neonate undergoing abstinence.
5. Evaluate mothering practices of women who have abused drugs during pregnancy to assess their ability to carry on an effective childrearing role.
6. Develop outreach mechanisms so that more mothers and infants may be assessed in followup. This should provide a large enough experimental population for appropriate statistical analysis as well as comparable control populations.

Lastly, in view of the potential impact of female addiction on succeeding generations, coupled with the possibility of a rise in the incidence of female addiction, the inclusion of female addicts in research should no longer be considered an expendable luxury—rather, female addicts should be included in all studies of addiction in sufficient numbers to permit inferences about them. Such a step should preclude the necessity for future studies directed primarily toward an examination of sex differences or toward study of the unique characteristics, needs, and problems of the female addict client.

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PREPARED STATEMENT OF JOAN C. STRYKER, M.D., F.A.C.O.G., PROFESSOR, DEPARTMENT OF GYNECOLOGY AND OBSTETRICS, WAYNE STATE UNIVERSITY OF MEDICINE, DETROIT, MICH.

THE HUTZEL HOSPITAL PREGNANT DRUG ADDICT CLINIC AND THE WAYNE STATE UNIVERSITY SCHOOL OF MEDICINE ADDICTED NEONATE PROGRAM.*

INTRODUCTION

In the past 10 years, over 1800 obstetrical deliveries of women who abuse subsubstances have been carried out at Hutzel Hospital. Of this number, 1649 patients were enrolled in the Pregnant Drug Addict Clinic. The remaining 151 women were classified as "walk-ins:" these 151 women were basically abusers of heroin and had no previous care. From both the Clinic enrollees and the walk-ins, a total of 544 women have been observed and data collected over a period of years. Their progeny have also been observed and tested with physical behavioral, psychological and motor examinations and tests performed at appropriate ages.

Two-thirds of the babies of mothers enrolled in the Clinic did not exhibit the neonatal abstinence syndrome, while all of the babies of the walk-in mothers developed some degree of the neonatal abstinence syndrome: therefore, the degree of drug addiction is somewhat controlled by clinic attendance.

MATERIAL

What kind of a woman is a pregnant drug addict? The women at the Hutzel Hospital Clinic are predominantly black (94 percent). Eighty-six percent of these women live in the inner city of Detroit: the remainder come from suburbia.

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Approximately three-fourths of the patients felt that they came from an economically secure home. Twenty-five percent of the women were raised by their mothers, and 60 percent by both parents. They did not feel that their homes were restrictive, although 44 percent were disciplined by spanking and restrictions: only half of this group felt that they were severely disciplined; and 8 percent were never disciplined. The great majority, 88 percent, felt that they were loved.

Educationally, the majority of these women do not have a low I.Q. Over one-half of them attended high school, and 25 percent graduated from high school: from this number, one-half of them went on to college, but we have no College graduates. Ninety-two percent of the patients state that they had worked at some time or other, but at the time of the entrance into our program, only 8 percent were working. In analyzing their work history, 64 percent of these patients worked sporadically and only 13.6 percent continued holding down a stable job after becoming addicted. It is the feeling among the members of our staff that these patients are really not from sub-standard, broken homes—the picture that has been inferred in other reports. Although these patients basically live in the inner city of Detroit, they do not consider themselves deprived.

The average pregnant drug addict has been addicted for over 4 years and is paying over $30 per day to support her habit, and 18 percent of this group are paying over $70 per day. Not only are drugs deleterious to their health, but also is their way of life, with its consequent neglect of their general health in order to support their habit and administer the drug.

How to identify the woman who is an addict: It is easy if the patient acknowledges addiction and substantiation can be made by urine drug screens, physical examinations and drug history. However, 16% of women who seek medical care do not acknowledge that they are addicted. To assist in the identification of a possible addict, all patients should have a urine drug screen done on admission to clinic or Hospital and the examining physician should be alert to physical signs of drug use. The signs and symptoms of drug abuse are: pupillary constriction, needle track marks, localized edema, thrombosis, subcutaneous abscesses, or erythematous nasal mucous membranes (if the patient is "snorting"). Central nervous system evidence of drug use may be recognized if the patient is "bogued," "high," or drowsy. For the obstetrical patient, a past obstetrical history of small for gestational age babies, increased fetal activity, or premature rupture of membranes may be a key. If a patien' becomes suspected of drug abuse, a repeat urinalysis for a drug screen is imperative, especially if the first screening test was negative.

The woman who abuses substances may have a great number of pathologies. During the physical examination, the physician should show a special concern for the presence of any infections, such as dental abscesses, rhinitis, or excoriation of the nasal septum (which will be seen if the patient is "snorting"). Asthma, pulmonary rales and signs of interstitial pulmonary diseases are common if the patient is "running" the drugs. The material with which the drug is cut, such as starch, strychnine, quinine and/or sugar, will frequently be filtered out into the lung parenchyma and create these pathologies.

There is an increased number of cases of bacterial endocarditis (infection of the heart) being found in these women, again, as a complication of "running" and the use of contaminated equipment. On the abdominal examination, hepatomegaly may be a clue to hepatitis. On the pelvic examination, it has been found that a fair number of the patients have a veneral disease: such as, condylomata acuminata, Trichomonas, Hemophilus vaginalis, herpes genitalis, gonorrhea, or syphilis, with subsequent salpingitis and/or tubal abscesses. Even the breasts may show indications of drug use, by evidence of trauma, lumps, or bumps, as frequently patients may resort to using their breast veins for "running" drugs. The musculo-skeletal may show pitting edema, which is due to vascular disease.

Certain laboratory diagnostic evaluations are indicated for these patients which are over and above the routine tests given to "normal" prenatal patients: the laboratory evaluation should include—complete blood count with indices, a complete urinalysis, cultures, a chest x-ray or a TB skin test (all cases of active tuberculosis in the Hutzel Hospital Prenatal Clinic have been within the pregnant drug addiction population), electrocardiogram, SMA-12, Sickle cell prep, rubella titer, serology, cervical and rectal cultures for gonorrhea, hepatitis associated antigen-HAA, cervical Pap smear, alpha-fetal protein if between 14 and 18 weeks of gestation for possible congenital anomalies, and an ultrasound scan for confirmation of pregnancy because of the patient's irregular menses, and biparietal diameter determinations for fetal age at 20 to 30 weeks of gestation. A special note should be made here that pregnancy tests may give a false positive reaction because of the presence of drugs.

Once an addict has been diagnosed as being pregnant, then the physician and those in care of her must realize that a pregnant addict is two people—herself and her fetus. The treatment program, of course, depends upon her past medical and obstetrical histories, her drug history, and her gestation. If the patient is in her first trimester, then a great deal can be accomplished to correct any pathology, to regulate the methadone dose by titration, and to establish gradual detoxification. If the patient is over 5 months of gestation, the ability to safely detox her has been greatly reduced. If the patient is a walk-in, only the immediate care revolving around her labor and delivery can be instituted.

In general, the aim is to produce non-addicted infants at birth, and, to do this, we must have healthy mothers. If possible, the aim is to gradually detox them from methadone with no street drugs—no "chipping." If a woman can be detoxed to less than 20 mgs of methadone per day during the last 6 weeks of pregnancy, the chance of delivering a healthy, non-addicted baby is very good. In making the decision as to the original methadone dosage, a formula has been devised: basically one-half the dollar per day amount paid for drugs, subtracting from that number a factor which computes the length of time that the patient has been addicted. The longer the drug habit, the more methadone the patient will require:

$$\frac{\text{\$ per day}}{2} - (10 - \text{years of addiction}) \times 2 = \text{mg of methadone}$$

As an example, if the cost per day is $60, and the drug addiction has been for 5 years, the starting dose of methadone would be 20 mgs per day, followed by titration.

To titrate a patient, the patient's symptoms of withdrawal or overdose are monitored. A withdrawal chart is filled out by the patient every 3 days, then by personal observation and questioning of the patient, a judgement can be made as to whether the initial methadone dose was too low, too high, or just right. The key figure in this titration situation, of course, is the nurse who gives the patient her daily methadone and daily observes the patient. A Staff Patient Review Board meets once a week at the Clinic and the case reports of the patients recently admitted into the Program are discussed and decisions are made as to whether the dosage is pharmacologically satisfactory for each patient. The use of other drugs, such as diazpam, is absolutely contraindicated; however, if the patient is experiencing a great deal of sleeplessness, senequin may be prescribed. The objective of the Program is a gradual detoxification, not a 21-day wonder. Gradual detox is defined as a decrease in the original dosage of approximately 10 percent every 2 weeks.

Not all patients will follow the dictates of the Clinic, and some of them become really difficult to handle. If they show symptoms of "acting-out," such as lateness missed appointments, continued use of illicit drugs—as determined by urinalysis, intoxication, illicit activity, irritability, impulsive, demanding provocative behavior, or constant lying, this is also discussed at the Staff Patient Review Board meeting. It is very important that an attempt be made to establish the reason for this behavior so that corrective measures can be instituted. It is also important to avoid moral judgment and not increase the guilt and shame or substantiate the patient's own low self-esteem. Staff members must be supportive and realize that these patients are ill: these women are not escapees from criminal behavior—they are ill, just as the alcoholic, the diabetic, the tubercular, or the patient with a myocardial infaction.

As well as the social-psychological aspects, there are real medical problems in this group of women: 60 percent have or have had a history of hepatitis; 54 percent enter the Clinic with a hemoglobin of less than 10 grams; 48 percent are underweight by over 10 percent of their normal weight; 37 percent exhibit chronic infections such as, abscesses, cellulitis, thrombophlebitis, cystitis; and 26 percent reveal abnormal Pap smears. Additional complications found in these women are asthma, pneumonia and hypertension. The most serious of these medical complications are abscesses, hepatitis, subacute bacterial endocarditis, and constipation leading to obstipation: all 4 of these complications have contributed to the demise of patients.

Serious obstetrical complications are also encountered in these pregnant women and the majority of them are enrolled in the High Risk Obstetrical Clinic. The obstetrical complications most frequently found are: eclampsia, bleeding, premature rupture of membranes, abnormal presentation, multiple births, abruptio placenta, and placenta accreta (the incidence of placenta accreta among our pregnant drug addicts is 27 times higher than in the average obstetrical population). For 96 percent, the Risk Score is over 6.

Not only is there an increase in pathologies in the mother, but there is an increase in pathologies in the fetus. The occurrence of fetal abstinence syndrome contributes to the high fetal morbidity or wastage among these patients: such as, 19 percent of spontaneous abortion, 37 percent occurrence of premature rupture of membranes, 28 percent meconium aspiration, and excessive fetal activity. To establish the diagnosis of fetal abstinence syndrome at Hutzel Hospital, Fetal Activity Test (F.A.T.) is performed on the patients after 28 weeks of gestation. The F.A.T. measures the baby's cardiac rate. If the fetus is indeed suffering from withdrawal, a characteristic fetal cardiac pattern is found on the F.A.T. The fetus that demonstrates persistent fetal abstinence syndrome and is of a viable age will do much better out of the mother and in the Nursery. Thus the rate of primary cesarean sections has been increased because of the dangers of intrauterine asphyxia, etc. There is a 19.9 percentage of lower Apgar scores, and a 9.2 percentage of aspiration pneumonia is also found in these babies.

The fetal outcome at Hutzel Hospital is as follows: 23 percent of all infants of drug dependent mothers weigh less than 2500 grams at birth, in contrast to 12 percent in the general Nursery and 11 percent in the city of Detroit; the stillborn rate is suprisingly lower than that of the general Obstetrical Service and for the city of Detroit: however, our neonatal death rate is considerably higher, due to the increase in congenital anomalies, premature births, respiratory distress syndrome, and aspiration pneumonia. The congenital anomaly rate among the infants of drug dependent mothers is 2.4 percent, in contrast to 0.4 percent in the general Nursery.

Another interesting facet, and one which Dr. Chavez, our Neonatologist has reported in the September, 1979 issue of the Journal of Pediatrics, is the incidence of crib deaths. The Sudden Infant Death Syndrome or S.I.D.S. (crib deaths) is 1.4 percent in the known infants of drug dependent mothers versus 0.4 percent for the city of Detroit. There is also a slight edge on multiple births in our population.

Many drugs can be associated with drug withdrawal manifestations, or the neonatal abstinence syndrome (NAS), in the newborn: heroin, methadone, barbiturates, alcohol, diazepam, librium, darvon, placadel, codeine, and PCP's. The Neonatal Abstinence Syndrome is manifested by the following symptoms: irritableness, sleeplessness, restlessness, tremors, high pitched shrieking, hyperactivity, poor feeding, vomiting, diarrhea, fist sucking (rooting), excessive mucous, tachypnea, fever—even collapse and death.

Dr. Cleofe Chavez, Dr. Loretta Finnegan from Philadelphia, and Dr. Marvin Green from New York have collaborated and devised a symptom chart which can be used by all Neonatologists and Nursery Nurses throughout the United States to adequately and accurately diagnose the degree of the Neonatal Abstinence Syndrome. The chart lists the percentages of vomiting, diarrhea, weight loss, irritability, tremors, twitching or tachypnea that a neonate may exhibit and correlates these percentages into a degree of neonatal withdrawal. The majority of the babies can be treated with tender, loving care; however, in the severe cases, a drug is given to gradually withdraw the baby from its addiction.

A Brazelton test was performed on all of the neonates born to our population: this test consists of stimulating the babies and noting the degree of their reaction to—ringing a bell, a cold object, the Moro reflex; observations were made of them "walking"; the degree of muscle turgor was noted; and their irritability was also recorded. As a continuing function of our research, these youngsters were followed, observed and examined as they grew older. Dr. Chavez is shown performing a periodic physical examination on one of the children of a drug dependent mother: this child has been followed at the Clinic since birth.

The results of the observations and tests of the newborn babies are illustrated on a simplified chart. The addicted baby at first week, second week, third week, one month, and six months of age shows decreased alertness and increased rigidity, irritableness and tremulousness, and a decrease in weight gain. After 6 months, alertness becomes equal, but the rigidity, irritability and tremulousness are still predominant over that of the controls; however, the weight gain becomes equal. By the end of one year, the addicted neonate shows less ability for motor movement, that is, these youngsters are slower to walk erect and with confidence, slower to dress themselves, and slower to reach psychological maturity than the control children.

As an additional test, the child's behavior as well as the mother's behavior were monitored on a TV screen in the playroom-waiting room of the Clinic, and the videotaped observations were analyzed. Very little difference was found in child's waiting room behavior between addicted mother and her child and a control mother and child other than the drug-exposed child seemed to be a little

more hyperactive in wandering and number of squares crossed during the observation.

A question then arose: are the slight differences observed in these youngsters due to the environment? A study was devised and carried out in which both the control and the drug-exposed youngsters were observed in their home environment. A staff team visited the homes: one member of the team knew if the home was that of a drug addicted patient, the other observer went on the home visit "blind," that is, she was unaware of the status of the home. The reliability of the observation was tested with the following results: the drug-exposed home had less objects and experiences, less physical and language stimulation, less nonrestrictive or punitive actions, that is, less discipline, than did the control homes. The encouragement of maturity and evidence of pride, affection and thoughtfulness were approximately the same. Masculine stimulation was the same in both homes, but more independence was encouraged in the drug-exposed home. In analysis, these differences were not really significant.

The McCarthy Observations were commenced when the youngsters reached the age of 3 years, and were carried out every 6 months. This group of observations and tests were performed to determine the child's I.Q., neuromuscular control, comprehension, coping and interaction with the observer. The child of a drug dependent mother is shown trying to stack a series of blocks, as the observer has done.

The performance on the McCarthy scales revealed that the general cognitive, verbal, perceptive, and quantitative scores were approximately the same and the differences were not significant. Both the memory and motor scores showed a considerable difference, with the drug-exposed child less able to perform. On the discriminating test situation behavior portion of the McCarthy test, the drug-exposed child revealed greater gross body movement, had a higher level of energy, showed irrelevant minor movement, and a great amount of immaturity in interaction than did the comparison child. The fine motor coordination was also decreased. In this chart, fine motor coordination is 3.0 versus the comparison of 2.5: the higher the score, the less the fine motor coordination.

For all drug dependent patients delivered at Hutzel Hospital, there is a high fetal wastage (29 percent), high obstetrical risk (96 percent) a neonatal death of 2.2. percent, congenital anomalies of 2.4 percent, and a low birth weight of 23 percent. If the patient is enrolled in the Pregnant Drug Addict Clinic, all of the above percentages decrease; that is, both the mother and baby have a much better chance, with two-thirds of the babies being born non-addicted. The stigmata of intrauterine addiction, regardless of the Neonatal Abstinence Syndrome is still in evidence. The infant of the drug dependent mother takes 6 months to make a satisfactory weight gain, become alert, and is slower to walk at the age of 1 year. He may show more central nervous system pathology at 3 to 5 years of age than a non-addicted infant.

It is hoped that we may be able to do a series of observations in the Detroit School System when these youngsters reach Grades 1 and 2. This research proposal is presently being considered for funding. Once these observations have been completed, we may be able to determine the future of a child of a drug dependent woman—what they have in store for them and what their handicaps might be.

How to interest the patients in the Clinic, and, once they are enrolled, keep them enrolled until they deliver has been one of our most important endeavors. Frequent contacts by the staff with the lay community and other clinics has increased the knowledge regarding the services offered at the Hutzel Hospital Pregnant Drug Addict Clinic. Many of the other methadone clinics throughout the city readily refer their women to our clinic when they are first pregnant; however, some clinics, and the exact number is not known, refer their pregnant women late in the pregnancy or do not refer them at all. Twenty-two percent of those patients who enroll in the clinic find that the dictates of the clinic are incompatible with their lifestyle. In addressing this problem, it has been found that, occasionally, the patient has no means of transportation to the clinic and will drop-out, the majority of these patients, however, just cannot conform to the clinic structure.

The need for psychological care is important: the patient must develop a rapport with the clinic physicians for her obstetrical care; and there must be frequent one-to-one contacts with the social worker, who is able to work out many of the patient's day-to-day living problems, and to whom the patient may relate her everyday life problems or crises. The social worker is the liaison staff member who refers the patient to the obstetrician, the psychologist, or the psychiatrist as needed. These specialists are important in that they help the clinic personnel to understand the patients and to direct their care.

The second important aspect of the care of these patients is helping to change their lifestyle. This task is likened unto the Missionary who goes into a new, primitive society to convert them to a new religion. If a new religion is going to be substituted for the old, the new religion must offer many more benefits than the religion of their forefathers. It is necessary to change the primitive society's mores, their lifestyle, and their beliefs. In changing a pregnant drug addict's lifestyle, the foremost consideration is treatment, both for their physical pathologies and their drug habit. Development of good patient-staff relationships is necessary so that the patient may relate to the staff. Education is extremely important, not only prenatal classes, but a knowledge of their addiction and an understanding of why they are addicted. Rehabilitation, both vocational and physical: you cannot take away a lifestyle without giving another. Involvement of the patient's family, so they can understand the treatment program, and the educational and rehabilitation plans so they may become more supportive: when the family becomes involved, the results are greatly improved.

Finally, the development within the patient of parenting skills. All the patients want their babies, and this is good; however, when the addicted baby is whining or sickly, or comes to the "terrible two's", these women have difficulty in coping with their child, just as you and I.

If the drug scene is taken away, a much "better," more beneficial scene must be substituted.

Another aspect to health and rehabilitation is a method of contraception that the addicted patient will accept and continue to use: a second or third pregnancy just compounds the problem and does not help it. When Depo-Provera was available, approximately 12 percent of the patients accepted this method of contraception (higher than any other method). These patients are really not pill takers and there are frequently contraindications for prescribing ovulatory control pills. IUD's are not a method of choice: in 1978, when IUD's were used, the pull-out rate and pelvic inflammatory disease rate were quite high, sufficiently so that, at the present, the use of IUD's is contraindicated in a woman who is known to be addicted. Depo-Provera is not presently recommended by the FDA for contraception. For this group of patients, it is an excellent method; it decreases pelvic pain, is a highly effective contraceptive; and is an injection that requires attendance in the clinic only once every 3 months.

There has been some controversy regarding whether a woman who abuses drugs should be allowed to rear her child. In our Well-Baby Clinic, we have documented some type of physical abuse in 9 percent of the children. Only one child has died—this was of severe burns, when the mother placed the child in its carrier, on top of the stove, This was not deliberate, but neglectful. The mother was found not guilty in the Court.

We devised a questionnaire to see if we could pinpoint the mother who might physically abuse her child. The questionnaire dealt with how the mother would react in a specific situation, such as, her child spilling milk, running into the street, being in a dangerous situation, or crying. The same questionnaire was given to the control mothers. The answers were not statistically different. As an example: "what would you do if your child spilled his milk?" Ten percent of both sets of mothers would hit the child. If the child was in a dangerous situation, 36 percent of the drug dependent mothers would hit the child, while 33 percent of the control mothers would do so. Seventy-six percent of our drug dependent mothers would spank or hit a child if he ran out into the street. It is the opinion of our staff members, that the drug dependent mother is not all that bad, and the infants who have been raised in foster homes are not doing as well as those raised by the natural mother, or an immediate family, such as a grandmother or sister.

When I was invited to attend this Committee Meeting, I was requested to give my conclusions on this problem.

In conclusion, there are two areas that need a great deal of attention—Prevention and Treatment. In Prevention, education leads the list: women, whether they are teenagers, young adults, or older women, need to be informed regarding the hard facts that drugs are deleterious, not only for themselves but for their progeny. It is known that the use of LSD has decreased considerably because the people who were using it realized that it was a dangerous drug; unhappily, the changes in a person or in the baby of a person using other drugs are more subtle than with the use of LSD, but the changes are there. Once young people are convinced that drugs are dangerous, perhaps they will voluntarily cease to experiment with them and flirt with addiction.

The second portion of Prevention is research: Why addiction—are endorphins the key, and if so, expenditure of research money is necessary to explore this concept and the role of endorphins in addiction. Once the etiology of addiction is

known, cure is right around the corner: it is a disease—not a psychological problem.

Treatment: It is realized that methadone is not 100 percent satisfactory, but today that is all that is available to offer to pregnant patients. It is a clean drug, but it does necessitate daily administration, which often becomes a hassle. If the patient is not able to be gradually detoxed during her pregnancy—to less than 20 mgs a day, 8 weeks before the baby is born—the baby will experience a methadone addiction. Babies born with a methadone addiction, however, have less physical problems than babies with a heroin addiction because they are not being subjected to constant intrauterine abstinence syndrome and all the problems associated with this syndrome. As the mothers do not have to "hustle" to get money to support their habit, they are able to eat better and take better care of their bodies; therefore, the fetus is not exposed to poor nutrition and the consequences of infections.

Research should be continued on other chemicals that have been considered for treatment, such as, LAAM, Naltrexone, or Clonidine: none of these drugs have had extensive clinical trials on pregnant women; therefore, the effects of these drugs on a fetus are unknown.

The second portion of Treatment is rehabilitation. If a lifestyle is being taken away, one must substitute a much better lifestyle. Very little effort has gone into rehabilitation. This is especially true for women. We have not developed a good system of rehabilitation for our patients in the Detroit area. It is not because we have not tried—it is because every time a system has been inaugurated, it has failed, either due to a lack of money or a lack of interest. Rehabilitation is not my field of expertise.

Thank you very much for allowing me to speak with you today and share our data and experiences.

TABLE I—*Prevalence*

126,000 women of child-bearing age in the United States are heroin users.
20,000 women are in methadone clinics.
Hutzel Hospital staff delivers 250 addicts a year.
One-third of the babies are addicted of "Walk-Ins," all the babies are addicted.

TABLE II—*Diagnosis of narcotic addiction*

I. Acknowledge:
   1. Urine (screen)
   2. Drug history

II. Not Acknowledge:
   1. Urines (screen)
   2. Physical signs
      (a) pupillary constriction
      (b) needle track marks
      (c) localized edema over superficial veins
      (d) thrombotic veins
      (e) subcutaneous abscess or nodule
      (f) erythematous nasal mucous membranes
   3. CNS evidence of drug use
      (a) drowsy ("booged")
      (b) high
   4. Past obstetrical history of
      (a) SGA
      (b) fetal activity
      (c) premature rupture of membranes

TABLE II-B—*Areas of special concern in the physical examination of pregnant narcotic dependent women*

System:	
Dermatological	Presence of infections, abscesses, thrombosed veins, herpes infections, pyodermas.
Dental	Status of dental hygiene. Existence of pyorrhea or abscessed cavities.
Otolaryngeal	Rhinitis, excoriation of nasal septum.
Respiratory	Presence of asthma, rales, signs of interstitial pulmonary disease.

TABLE II-B—*Areas of special concern in the physical examination of pregnant, narcotic dependent women*—Continued

System:	
Cardiovascular	Presence of increased pulmonary artery pressure or murmurs indicative of endocarditis or preexisting valvular disease.
Gastrointestinal	Hepatomegaly, scars from injuries, incisional or umbilical hernias.
Genitourinary	Presence of infections such as: Condyloma acuminatum, trichomonas vaginitis, herpes vaginitis, gonorrheal ureteritis, salpingitis, tubal abscesses.
1. Uterus	Size, configuration, fetal position, fetal heart rate, fetal activity and placental localization and tenderness.
2. Breast	Evidence of trauma, "lumps or bumps," nipples, used breast vein for running.
Musculoskeletal	Pitting edema, distortion of muscular landmarks due to subcutaneous abscesses or brawny edema.

TABLE II-C—*Laboratory diagnostic evaluations*

Complete blood count with indices	Sickle prep.[1] Rubella titer.
Urine:	
Urinalysis—routine and microscopic.	Serology (VDRL and FTA).
Urine colony count and culture and sensitivity.	Cervical—rectal culture for N. gonorrhea.
Urine for drug screen	Hepatitis associated antigen (HAA)[1]
Chest X-ray or T.B. skin test	Cervical PAP smear.
Electrocardiogram	Blood type; Rh and indirect Coombs.
SMA-6	Alpha-feto-protein if between 14 and 18 weeks gestation.[1]
SMA-12	Ultrasound scan: 1. For confirmation of pregnancy after 6 weeks gestation. 2. For biparietal diameter between 20 and 30 weeks gestation.

TABLE II-D

"* * * (infants), those born to women receiving near-term average doses of <20 mgs/day had significantly less symptomatology, weight loss, and need for pharmacologic treatment than those of mothers still on higher doses. Reduction of methadone dose levels during the last 6 weeks of pregnancy to <20mgs/day appears to reduce the severity of neonatal withdrawal." [2]

TABLE II-E.—Withdrawal

	(1) None	(2) Mild	(3) Moderate	(4) Severe
1. Aching bones and joints				
2. Yawning				
3. Runny nose				
4. Watery eyes				
5. Muscle cramps				
6. "Goose bumps"				
7. Loss of appetite				
8. Abdominal cramps				
9. Nausea or vomiting				
10. Heartburn-gastric distress				
11. Diarrhea				
12. Insomnia				
13. Bad dreams or nightmares				
14. Excessive sweating				
15. Irritability				
16. Anxiety (tension, nervousness)				
17. Urinary frequency				

[1] Where appropriate—not necessarily routine procedures.
[2] Cleofe Chaves, M.D.

TABLE II-F.—OVERDOSE

	(1) None	(2) Mild	(3) Moderate	(4) Severe
1. Constipation				
2. Drowsiness				
3. Feeling high				
4. Nodding				
5. Blurring of vision				
6. Dizziness on standing				
7. Poor concentration				
8. Decreased sexual interest				
9. Numbness of hands or feet				
10. Involuntary jerking movements of lower extremities				

TABLE III—*Medical complications found most frequently in pregnant drug addicts*

	Percent
Hepatitis	60
Hemoglobins under 10 grams	54
Underweight by 10 percent of their expected weight	48
Chronic infections	37
abscesses	
cellulitis	
thrombophlebitis	
cystitis	
Abnormal Pap smears	26
Asthma	
Pneumonia	

TABLE III-C—*Abstinence*

Fetal Withdrawal Syndrome:
- Spontaneous abortion
- Premature rupture of membranes
- Meconium aspiration
- Excessive fetal activity

TABLE IV—*High risk—antenatal score*

History:	*Score*
Age, 18 years	1. 0
Black, single	1. 0
Showed hostility	1. 0
On welfare	1. 0
Problem Paps	2. 0
2 Premature infants	3. 0
Menstrual dysfunction	1. 0
Chronic non-debilitating disorder (hepatitis)	2. 0
Substance abuse	3. 0
Total	15. 0

TABLE V.—GROWTH AND PSYCHOLOGICAL CHARACTERISTICS OF NARCOTICS ADDICTED INFANTS

	Addicted	Nonaddicted
1st week:		
Alertness	○	+
Rigidity	+	○
Irritable	+	○
Tremulous	+	○
Weight	↓	↑
2d week:		
Alertness	○	+
Rigidity	+	○
Irritable	+	○
Tremulous	+	○
Weight	↓	↑
3d week:		
Alertness	○	+
Rigidity	+	○
Irritable	+	○
Tremulous	+	○
Weight	↓	↑
1 mo:		
Alertness	○	+
Rigidity	+	○
Irritable	+	○
Tremulous	+	○
Weight	↓	↑
6 mo:	=	=
Alertness	+	○
Rigidity	+	○
Irritable	+	○
Tremulous	=	=
Weight		

TABLE VI.—GROWTH AND PSYCHOLOGICAL CHARACTERISTICS OF NARCOTICS ADDICTED INFANTS

	Addicted	Nonaddicted
1 yr:	=	=
Alertness	○	○
Rigidity	○	○
Irritable	○	○
Tremulous	=	=
Weight	↑	↓
SIDS [1]		
Bayley:		
Motor	113.5	115.
Psychological	103.3	110.

[1] SIDS = Sudden infant death syndrome.

TABLE VII.—BEHAVIOR OBSERVATIONS AND ENVIRONMENT MEASURES

	Drug exposed	Comparison
Child's waiting room behavior:		
Playing and talking	69.8	69.0
Relating to caregiver	7.4	7.2
Relating to other children	14.3	14.0
Wandering	35.2	33.4
Number squares crossed	19.9	18.1

TABLE VIII.—BEHAVIOR OBSERVATION AND ENVIRONMENT MEASURES

	Drug exposed	Comparison
Home observation:		
Objects and experiences	11.6	13.1
Maturity encouraged	10.6	10.9
Physical and language stimulation	8.8	9.8
Nonrestrictive or punitive	6.1	6.6
Pride, affection and thoughtfulness	9.8	10.1
Masculine stimulation	3.9	3.9
Independence encouraged	5.8	5.4

TABLE IX.—PERFORMANCE ON McCARTHY SCALES OF CHILDREN'S ABILITIES

	Drug exposed	Comparison
General cognitive	86.8	86.2
Verbal	44.3	44.1
Perceptual	40.7	40.7
Quantitative	42.4	40.2
Memory	43.6	44.0
Motor	44.5	46.0

TABLE X.—DISCRIMINATING TEST SITUATION BEHAVIOR

	Drug exposed	Comparison
Gross bodily movement	5.5	4.7
Level of energy	3.4	2.8
Fine motor coordination	3.0	2.5
Irrelevant minor movement	5.3	4.1
Immaturity in interaction (percent)	33.0	7.0

TABLE X-A—*Changing patient's life style*

1. Treatment.
2. Develop good patient-staff relationship.
3. Education: pregnancy; self.
4. Rehabilitation: vocational; physical.
5. Involvement of family.
6. Develop parenting skills.

TABLE XI—*Early enrollment*

	Percent
Enrolled over 5 prenatal months:	
Detoxed successfully and safely to less than 20 mgs. of methadone	80
A healthy baby at term, over 5.5 pounds	90
No or mild addiction	80

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PREPARED STATEMENT OF KATTIE PORTIS, EXECUTIVE DIRECTOR, WOMEN, INC., DORCHESTER, MASS.

The extensive use of licit and illicit drugs produces a staggering array of negative consequences for the individual substance abuser. But when the abuser is a pregnant woman, these noxious effects are multiplied and transferred to the unborn child. As the Director of Women, Incorporated, I have seen these problems on a daily basis for the past six years, and I am grateful to be able to share my first-hand knowledge and ideas with you.

Women, Incorporated is a private, non-profit, community organization providing residential treatment for women experiencing difficulties with drug and alcohol abuse. It is the only facility in the Commonwealth of Massachusetts that can accommodate both the client needing treatment and her children. Servicing the needs of these women and their children form the core of the program, for the agency has been primarily concerned with the assessment, fulfillment, and documentation of these needs since 1974. All of Women, Inc.'s service centers are located within one of the most economically deprived areas of Boston, and this fact is integral to the successful functioning of the program. The major objectives of the program are not only to provide needed assistance to a group traditionally excluded from conventional services: economically deprived, third world women and their families, but to also be inexorably linked to, and fully tuned into, the life experiences and needs of this service group.

By definition, Women, Inc. is constantly concerned with the problems of the drug-addicted, pregnant women. We are also confronted with the children; in utero and after birth, the physical, emotional, and social difficulties of these children are immense. The program has attempted to help both the mothers and children who need services.

Women, Inc. has always had its roots in the community, and was created in response to community need through a research demonstration grant from the National Institute on Drug Abuse to explore alternative treatment modalities for women. From its inception, the majority of Women, Inc. staff have been from the community, many ex-addicts and recovered alcoholics, and primarily female. The premise is that those who are closest to the problem, and those who have experienced these problems first hand, will often be best able to emphasize, provide needed services and serve as realistic role models. Again, this interlocking of staff and client living experiences allows the program to be open and responsive to the ever-changing needs of the clients.

This close bonding with the community has created, and is constantly recreating, the philosophies that underlie all aspects of the Women, Inc. experience. It is accepted that for these women, substance abuse is only a symptom of a complex system of social impediments. And for these children, the substance-abusing mother serves to exacerbate these problems. The woman is faced with the problems of poverty, relative deprivation, inadequate educational and vocational opportunities, the responsibility of childrearing, the always present racial and sexual discrimination and the lack of adequate, responsive services. The child is born into this world plus often is experiencing the physical and emotional side effects of being born addicted to drugs. In some cases these effects are temporary, too often they are permanent. It is further accepted that this array of negative social situations and resources will often produce a very stressful living experience for both the woman and the child. By definition, neither have the coping abilities with which to adequately deal with these circumstances. This in turn, will often lead to feelings of helplessness, depression, anxiety and very low self-esteem on the part of the woman, and a good deal of negative behaviors and feelings on the part of the child. These feelings and behaviors, in conjunction with the mother's lack of skills and the absence of social support systems, almost always accompany the living situation among Women, Inc. clients. It therefore follows that in order to truly serve these families, not only the mother's addiction itself, but its underlying causes and consequences must be dealt with.

Therefore, Women, Inc. has developed programs that provide a balance of services to both mother and child. The woman's treatment combines direct drug treatment and skill building with activities that inspire self-awareness and self-esteem, a sense of dignity, and an understanding of the social, cultural and political factors affecting everyday life. The treatment plan is built around the special needs of women, and encourages independence and confidence through the acquisition of strong survival skills and the development of on-going support systems. Overall program activities emphasize the learning of self sufficiency skills (particularly educational, vocational, and parenting) and the exploration of all available

options, so that a woman may learn to effectively deal with living a drug-free existence while also experiencing personal satisfaction and growth. Intervention methods include group and individual counseling, advocacy and referrals in a residential, day, or outreach program. This direct treatment is augmented by a comprehensive parenting and childcare program, educational, and vocational services (including GED referrals, the development of marketable skills, counseling, and placement), consciousness raising sessions, community involvement, along with skill-building activities and seminars designed to increase self-sufficiency (budgeting, shopping, cooking, nutrition, etc.) and understanding of addiction and substance abuse.

The needs of the children are addressed through a childcare program designed to be responsive to their special problems and a parenting program to educate their mothers to enable the women to be the mothers that they wish to be, and that their children need them to be. The Women, Inc. Parenting and Childcare Center seeks to meet these needs through a triple focus plan: a specialized child development program for the child, counseling and support for the mother and facilitation of the mother-child relationship through a variety of modes.

The Childcare Program is a comprehensive childcare and child development program. The child development program is comprised of five major curriculum areas: language arts, science, math, image building, and physical development—each area geared to the individual needs of each child. The staff is made up of highly trained and licensed professionals with years of experience with children, and a high level of sensitivity to the special needs of these children and their mothers. Concern is centered around correcting any problems that might be the result of having been born addicted and/or living with a substance abusing mother. The Center is open from 8:00 a.m. to 5:00 p.m., Monday through Friday, and provides two meals and two snacks for children ranging in age from fifteen months to six years.

The Parenting Program offers a wide range of services from entire parenting courses for the addicted or non-addicted parent to individual and group counseling. Seminars are available on a wide array of parenting concerns (child development, discipline, pregnancy, social services, etc.) and are presented by Women, Inc. staff members, community members with expertise in the fields, as well as professionals in the area. These seminars are augmented by group and individual counseling, workshops and informal rap sessions, relevant group outings, activities with the children and work in the childcare center. The overall program goal is to inform the decisions that women make about parenting through education and discussion. The general context is to understand parenthood and the ways that parenting issues are similar/the same for all parents, and the ways in which addiction complicates these issues.

The real uniqueness of the programs come in their interlocking goals and activities. The parenting program is an integral portion of the childcare program, for no child may be enrolled unless the parent participates in the parenting activities. The childcare program is also integral to the parenting program, for many activities are coordinated between the two, and the parent is highly involved with input and feedback concerning her child's daily activities.

Program outcomes have been very encouraging. Many women have started new lives: drug free, self sufficient lives—providing for themselves and their children in a positive fashion. Obviously the children have benefited tremendously through their mother's rehabilitation, but they have also improved on their own level through Women, Inc.'s specialized childcare program.

Now that I have spoken of Women, Inc.'s program, let us turn our attention to the issue of addiction and pregnancy. What exactly are the effects upon the children? How do the mothers most commonly react to being drug addicted or pregnant? How do the fathers fit in? In what ways might these problems be alleviated?.

Attention will now be turned to the child. Given a drug addicted mother, what are her/his chances? It is a known fact that the child's chances of being born alive are reduced, for the incidence of spontaneous abortion and stillbirths are much higher among substance abusing women. And on a general level after birth, just the experience of withdrawal may be lethal, and the occurrence of infant crib death has been estimated to be seventeen times as high among these babies. There also exist a number of negative by-products as a result of the mother's lifestyle while pregnant. Malnutrition and an increased propensity for the woman to contract a venereal disease are just two hazards which can produce premature delivery and potential birth defects.

Research has shown that the mother's addiction to different drugs will have different effects upon the neonate. Tranquilizers, barbiturates, methadone, and heroin all enter the blood system of the baby as they are present in the mother. The placental barrier is no barrier for drugs, as most drugs, including alcohol, flow easily from mother to child. The child born to a chronic amphetamine addict will not be born addicted to the drug, but will show effects of a malnutritioned mother and usually a large amount of calcium depletion. The child will tend to be small and weak boned. But the child born to a heroin, methadone, alcohol or barbiturate addict will quite often be born addicted to that drug. The child will experience the same withdrawal symptoms that an adult would who was confronted with ceasing the use of the addictive drug. And if the child does not receive quality medical care immediately, the child will probably die.

The child born addicted to heroin can display withdrawal symptoms varying from mild to severe. This problem is treated with drugs, usually phenobarbital or thorazine, but these drugs can only ease some of the baby's pain. The children are in real pain and tend to cry constantly. They have no tolerance for food and often alternate between vomiting and diarrhea. They can't sleep. They are very small. They shake and have the tendency to go into convulsions. They sweat. They run high fevers. They sneeze extensively. A child with mild symptomotology may need drugs for only a few days while a child who is severely addicted may need to be maintained for up to a month.

There is much controversy over whether it is better for a child to be born addicted to heroin vs. methadone. This is not an argument I wish to take sides on, as the research results are conflicting. Let it suffice to note that while the onset may be later with methadone, the symptomotology is very similar, and both are extremely unhealthy for the child.

Alcohol is another drug that has horrendous effects upon the fetus. Fetal Alcohol Syndrome is the name of the disease that the child of an alcoholic mother may be born with. This disease is characterized by small size (including small brain size which has permanent effects), mental retardation, physical deformities (often facial), tumors, heart defects, hyperactivity, and delayed physical abilities. FAS can also display a continuum of symptomotology, with the most symptoms usually occurring in those children whose mothers drank the most.

The evidence is not in on the long term effects of being born addicted. It seems that some children develop behavior problems around the age of three, some children show slow developmental growth, some reduced IQ, while many children appear to grow and develop normally once they are placed within a stable living situation.

What of the mother? Is she aware of the potential harm she is doing her unborn child? Does she seek out treatment for herself and medical help for her baby? The unfortunate answer to these questions is usually 'no'. First, most women are ignorant of the noxious effects of drug use on a fetus. And secondly, women who are drug addicts are even less likely to have this information. Drug addicts do not read newspapers nor news magazines, and if they watch television it is usually in the middle of the night. Most have not had very extensive formal education and have a large amount of distrust for 'experts' and medical personnel. In other words they do not have the information and their access to getting the information is extremely limited. Therefore, they often continue abusing drugs during their pregnancy and do not realize the harm they are doing their child until it is too late.

In the same vein, these women do not often seek out treatment when they are pregnant. The pregnancy often puts additional pressure upon them and complicates their life to such an extent that their drug use may increase. But there is a larger reason for their resistance to services at this crucial time. They are afraid that the child will be taken from them. This is a real fear. In Massachusetts, there is a law that states that an addicted mother is an abusive mother, and should have her child placed in protective custody. While these women may be drug addicts, they also are mothers who love their children and don't want to be separated from them. Therefore, they often will not seek any type of help, and continue to live a lifestyle that increasingly jeapordizes the child's well being. During the past six years Women, Inc. has served hundreds of women and only *six* babies have been born to women receiving treatment.

The differences in the history of a pregnant woman who seeks treatment versus one who does not are immense. For the child of the woman who chooses to remain on the street the prognosis is relatively poor. The woman will continue to abuse drugs and increase her baby's chance of being addicted. The woman will most likely use other substances, such as cigarettes or caffeine, which have been found

to be harmful to the neonate. She will probably use other harmful drugs besides her primary drug of abuse (such as alcohol, barbiturates, etc.). She will probably eat poorly. She will not receive proper (if any) prenatal care. She will often expose herself and her unborn child to violent situations. The picture is not a pretty one. It has been noted that a woman's nutritional, medical, social and psychological situation will effect her child. All four of these areas can only produce negative effects for the unborn child of a street addict.

The pregnant addict who does seek treatment is in a far superior position. To encourage a pregnant woman to be drug free is best, but even being maintained on methadone (methadone causes extreme withdrawal symptoms in the newborn child) allows for medical, nutritional and social support to be present. A pregnant woman who comes to Women, Inc. will cease heroin use thereby decreasing the potential of her child being born addicted. She will cease all other drug use (alcohol, barbiturates, etc.). She will receive extensive medical care. She will eat and sleep properly. She will receive the counseling and treatment she needs. She will have social support and enhanced self regard. All of these factors will increase her chances of having a healthy baby. And if the baby is born addicted, she and the child will be stronger and better able to deal with the withdrawal situation.

The absent person in the drama is the father. Unfortunately he usually is absent. And if he is present, his influence is often negative. All research to date has shown that the addiction of the father has no direct effect upon the fetus. The fetus is effected only by the lifestyle of the mother while it is in utero. While this does lay a large burden upon the woman, the father's potential for good or ill is present. He could be supportive and encourage her to seek treatment and take care of herself, or he could be destructive and encourage her to do drugs with him. In the vast majority of cases the father is a negative or negligible influence.

Where does this leave us? How can we help to reduce the problems of drug-abusing, pregnant women and children being born addicted? My recommendations are three-fold: education, support, and specialized services. Firstly, education is an absolute necessity. Until a woman knows that she is doing her child harm, she will take no steps to change the situation. And education must come through a means that she has access to. It must come from the street. The old tradition of out-reach must be reenacted. There must be people of the street, on the street, giving out the information. Ex-addicts, community-born social workers, other people to whom a street person can relate must be available with good, true information to let these women know the dangers and offer them solutions. Twenty-four hour hot lines to provide this information are imperative. Media blitzs at the time, and through a means, likely to reach an addict are necessary to dispense this information: a 3:00 a.m. talk show on the all-night TV station. Drug education programs run by community drug specialists are needed in the public schools. Good programs taught by ex-addicts, given at an early age so that even if a woman drops out of school young, she has received this information.

After education, responsive and appropriate services are absolutely necessary. Protected, dependable, community-based programming that can provide the type of care and treatment these women and children need. Services located in the areas of need, staffed by people that a terrified, pregnant addict can begin to trust. Services that will provide support and help—not condemnation and punishment. It is imperative that funding be provided to support programs that can help reduce this problem—programs such as Women, Inc. where a woman can come and receive the help she needs, a place where she can go to reduce the chance that her baby will be harmed, and a place that will continue to support her and her child after its birth.

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